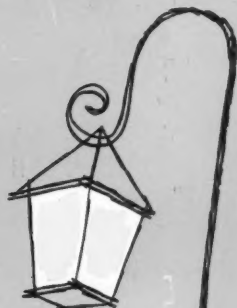


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* Indicates 2-reel version available.
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Wallace Heaton's Notebook

The HAYNOR CINE EDITOR 8mm.

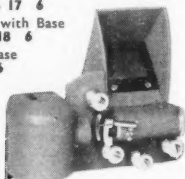
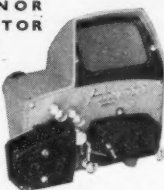
This is a new model of smart design with a large 3in. x 2in. curved optical screen. Brilliant illumination by new

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HAYNOR VIEWETTE. A non-animated movie editor for 8mm. films shows bright image on ground-glass screen 1 1/2 in. x 1 in. Mains voltage lamp. Focusing lens and notcher. Very small and compact measuring only 4 1/2 in. x 3 in. x 4 1/2 in. All solid die cast construction throughout. Price, complete with Winder and Base Board, £6 17 6

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Containing many hundreds of entertaining and interesting films, this catalogue is the most comprehensive and lavish we have produced. If you own an 8mm. projector you cannot afford to be without this publication. It costs 1/9d. post free and will come to you by return.

Also available are new releases lists for our 16mm. sound, 16mm. silent and 9-5mm. libraries. These are free of request—send for your copy today.

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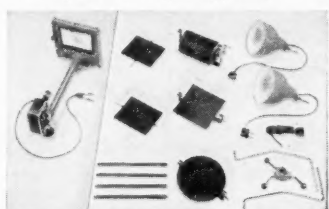
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Pathoscope B, f/3.5 fixed focus lens, outfit case ...
Pathoscope De Luve, f/2.5 fixed focus lens, case ...
Pathoscope H, f/2.5 fixed focus lens ...
Pathoscope H, f/2.5 fixed focus lens, outfit case ...
Pathe Webbo "A", f/2.5 lens, 50ft. magazine loading ...

16mm. CAMERAS

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9.5mm. PROJECTORS

Specto "500", 500 watt lamp, 800ft. spool arms, lamp economy switch, built-in resistance, motor rewind ...

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MULTI-GAUGE PROJECTORS
Specto 9.5/16mm. Standard, 100 watt, 30 volt lamp, 800ft. spool arms, motor rewind, built-in transformer, case ...

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£12 17 6

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16mm. PROJECTORS

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Pathoscope Gem, 12 volt, 100 watt lamp, 900ft. spool arms, built-in transformer ...

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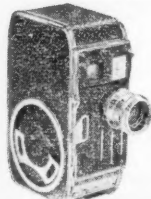
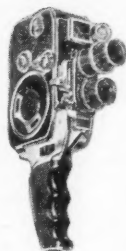
This new Bolex incorporates a built-in lightmeter that operates in an entirely new manner. It measures the light actually passing through the lens—the indicator in the viewfinder telling you when the lens is set to the correct aperture. This system has many obvious advantages—the lightmeter cell measures exactly what the lens sees, filter and optical attachments are automatically accounted for and any Kern Paillard 8mm. lenses—Standard, Wide-angle or Telephoto may be used on the camera. Adjustments to the lightmeter take into account film sensitivity, filming speed, lens focal length and shutter speed.

The Bolex B.8L has all the features of the ordinary B.8.VS model including: unique variable shutter to produce fade-ins and fade-outs, seven filming speeds from 8 to 64 f.p.s., single frame exposures, cable release socket, two lens turret head, self-setting film footage meter, release lock for self-filming.

Price: With Yvar f/2.5 fixed focus lens	...	...	...	...	£74 19 9
With Yvar f/1.9 focusing lens	...	...	...	...	£88 15 10
With Switar f/1.9 focusing lens	...	...	...	...	£120 9 2

Additional Kern Paillard Lenses

Prices: Switar 5.5mm. f/1.8 focusing Wide-angle	£50 3 9
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Yvar 36mm. f/2.8 focusing Telephoto	£25 1 10

**Paillard Bolex Model C.8S**

This new, low priced Bolex camera is a simplified version of the well-known C.8 model. In most respects the mechanism and finish of the two models is identical, the difference being that the C.8S has one filming speed of 16 f.p.s. and the viewfinder has no adjustment for matching additional lenses.

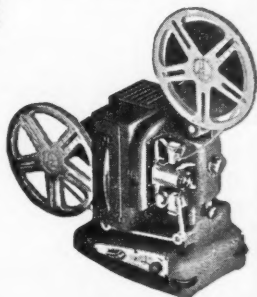
The specification of the C.8S includes, Standard 25ft. spool loading, interchangeable lens mount, accurate film footage counter, cable release socket.

Price: With Berthiot Lytar f/2.5 fixed focus lens	£35 17 0
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With Kern Yvar f/1.9 focusing lens	£51 19 7
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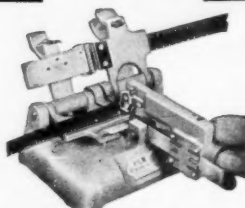
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8mm. Cima D8A

With interchangeable lens

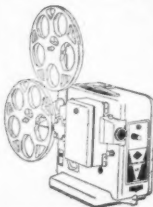


Latest version of the Cima D8. For 25ft. 8mm. double-run film in daylight loading cassette. 13mm. f/1.9 coated Steinheil Culminon lens; parallax corrected viewfinder; 4-speed Regulator, 8, 16, 24 and 32 frames per second; built-in filter holder. Accurate footage indicator showing length of film exposed. Telephoto and wide-angle lenses available. Complete with cable release.

£39.19.9

Leather Ever Ready case £3/7/11. Cash price complete with case, £43/7/8. Or Deposit of £14/9/4 with 12 monthly payments of £2/11/11 or 18 at £1/15/4. 8mm. Cima D8, with 12.5mm. f/2.5 coated interchangeable Isco-Westar lens, complete with cable release, £25/15/4.

8mm. Agfa Movector E.3



A remarkably compact cine projector measuring only $8\frac{1}{2} \times 8\frac{1}{2} \times 5\frac{1}{2}$ in. (with spool arms folded) and complete with twin-lock case and lamp; 20mm. f/1.4 coated Movenar; 12 volt 100 watt lamp; 400ft. spool capacity; geared hand rewind.

£42.4.2

Or Deposit of £14/1/2 with 12 monthly payments of £2/10/3.

8mm. G.B. "624EE"

Autoset Electric Eye Camera that estimates colour exposure for you!



If you can press a button, you can take successful colour movies with this camera! Advanced design with absolute simplicity of operation is the keynote of this new 8mm. camera. A built-in photo cell operates the lens diaphragm automatically and maintains correct exposure for colour film. If the light is not good enough for such exposures there is a visual warning in the camera viewfinder. If you wish to use black and white film, or faster colour films, the exposure control is set to "MANUAL" and the required lens apertures may be set by hand; this is also useful when special effects are wanted by over or under exposing colour films. With 10mm. f/1.9 fixed focus lens. The viewfinder also indicates the field of view for the $2\frac{1}{2} \times$ telephoto attachment which is available as an accessory. The "624EE" uses 8mm. double-run films, and enjoys the attractive price of only

£49.19.4

Or Deposit of £16/13/2 with 12 monthly payments of £2/19/8 or 18 at £2/0/9.

Accessories for "624EE"

Telephoto attachment	...	...	...	£9 11 3
Close-up attachment	...	...	...	15 0
E.R. Case	...	...	...	2 13 10

8mm. Paillard B8-VS

With "Fade" Device



The famous B8 camera appears as an additional model with a variable shutter; this providing "fade" for the beginning and end of the sequence. The "fade" control can also start and stop the camera respectively. Other advantages are the ability to alter the exposure time (shutter speed) without altering the filming speed, and larger apertures, with an increase of shutter speed, thus produces less depth of field and heighten contrast of focus between subject and background. Paillard B8-VS. With f/1.9 focusing Yvar.

£74.15.0

Or Deposit of £24/18/4 with 12 monthly payments of £4/9/4 or 18 at £3/1/0.

Paillard B8/V.S. With 12.5mm. f/2.5 Yvar £60 18 11

We also have in stock the new 8mm. Paillard B8L, with built-in Light Computer, otherwise similar to the B8/V.S.

Paillard B8L with 12.5mm. f/2.5 fixed focus Yvar £74 19 9

Paillard B8L with 13mm. f/1.9 Yvar in focusing mount £88 15 10

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The New 8mm. B8L Paillard Cine Camera



Measures the exposure behind the lens; the cell thus sees exactly what the lens sees. This is a remarkable advance of the B8-VS camera and was introduced as recently as the Cologne Photokina at the beginning of October, 1958. Regardless of the lens in use (and remember this is a twin-lens turret camera like the B8-VS) the photo-electric light computer in this new B8L camera can only see what the lens sees and thus has the

particular angle of acceptance of the lens in use. At the moment you commence filming the light computer automatically swings away from the light-path to the film; and between sequences it may be quickly re-introduced to make a further check on changing light conditions. 12 to 64 f.p.s.; twin-lens turret; variable shutter; viewfinder with variable field frames; film counter marked in metres or feet with end-of-spool signal.

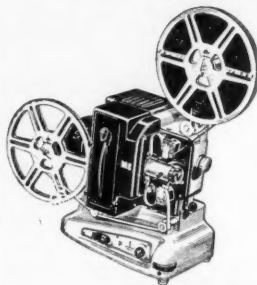
With 12.5 f/2.5 fixed focus Yvar ... £74 19 9

With 13mm. f/1.9 Yvar in focusing mount ... £88 15 10

Or Deposit (f/2.5 Model) of £24/19/10 with 12 monthly payments of £4/9/7.

Or Deposit (f/1.9 Model) of £29/12/2 with 12 monthly payments of £5/6/1.

8mm. Paillard M8R Now only £59.17.6



The M8R is the ideal projector for home use. Can be used on A.C./D.C. 110-250v. Manual or motor rewind. With 20 mm. lens; 500w. lamp; 1/2 or lin. ccd lens; 400ft. reel in can. Now reduced in price to

£59.17.6

Or Deposit of £19/19/2 with 12 monthly payments of £3/11/6 or 18 at £2/8/10.

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Pan Cinor "30" Zoom Lens



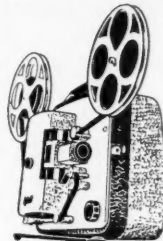
The illustration shows the Paillard C.8 with the new Pan Cinor "30" Zoom lens with a reflex viewfinder that may be swung away for easy loading of the camera. This is the first 8mm. variable focus-Zoom lens with reflex viewfinder. It permits the variation of focal length during filming from 10mm. to 30mm.

£90.16.4

SEE YOUR PROJECTOR IN ACTION

Before you choose, come for a demonstration, compare still or cine projectors and see their performance just as you will in your own home. **WE DEMONSTRATE AT YOUR REQUEST.** Just tell us the convenient time and the models you would like to see, and we will be ready for you in our **CINE DEMONSTRATION THEATRE AT BOND ST.**

8mm. "Specto" Projector



The 8mm. Specto 8 projector uses a mains voltage 500 watt lamp with matched optical system. One-inch coated f/1.6 projection lens; 400ft. spool arms; there is a power rewind and a variable speed regulator. The whole projector is housed in a pleasantly streamlined case, inside the lid of which is a clear diagram to show the path of film through the projector to facilitate threading. With 500 watt lamp; 3-core mains lead and one 200ft. reel.

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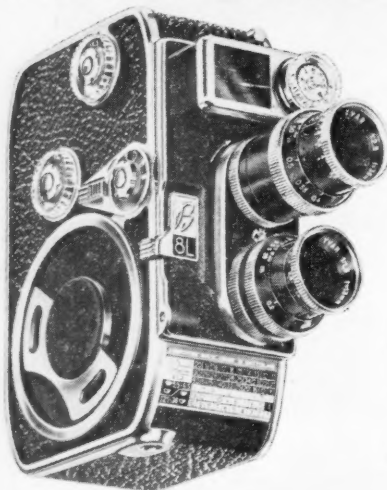
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The PAILLARD BOLEX B.8L

The ONLY CINE CAMERA with the LIGHT CELL BEHIND THE LENS



★ **BUILT-IN COUPLED LIGHT METER** that takes its reading from behind the actual lens giving exposure control hitherto unobtainable.

★ **THE SPECIAL DESIGN OF THE LIGHT CELL** enables the use of individual long focus wide-angle and standard lenses, not optical attachments. The use of normal lenses insures pictures of pin sharp definition from extreme close-ups to landscapes, while still retaining complete exposure control.

The Paillard Bolex B.8L has these additional built-in features

★ **VARIABLE SHUTTER** with new safety lock enables shorter exposures to be made at the same filming speed giving sharper pictures. Fades can now be added between each sequence giving your film a professional finish.

★ **REDESIGNED TWIN TURRET LENS PANEL** with wider lens spacing allows the use of the new f/0.95 lens (soon to be available) for filming under bad lighting conditions. Any standard high quality "D" mount lens can be used on the B.8L.

★ **MODIFIED GATE DESIGN** incorporating special springs to hold the film even steadier than before.

★ **ZOOM VIEWFINDER** from 12.5 to 36mm. lenses. film counter.

★ **NEW CABLE RELEASE** socket with improved safety lock.

★ **AUTOMATIC** re-setting device for

We will be pleased to show you a demonstration film taken with this camera

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B.8L with f/2.5 Yvar lens; CASH £74. 19. 0.
H.P. deposit £11. 19. 6 and 12 monthly payments
of £5. 14. 6.

B.8L, with 81.9 Yvar lens focusing; CASH—
£88. 15. 10. H.P. deposit £13. 15. 10. and 12
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Four flexible arms. Series-parallel on/off switch.
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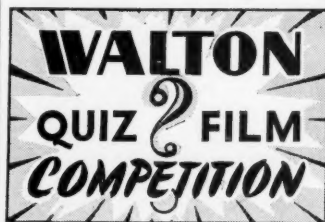
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16mm., 9.5mm. and 8mm.

PROJECTOR OWNERS!

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This Competition QUIZ Film consists of a series of 10 "Puzzle-Picture Shots" each preceded by a title in the form of a simple question such as—"Where is this?", "How many are there?", "What is this?", etc. All you have to do is to project the film—naturally as many times as you wish—and write down your answers, with the assistance of as many friends as you like. Then post us the entry form. (The film will also prove excellent as a party-game.)

The film is available in B/W silent only as follows: 16mm. (100ft.) 37/6, 9.5mm. (100ft.) 30/-, 8mm. (50ft.) 22/6. One entry form is supplied with each copy of the film, listing the questions and with space provided to write your answers. The competition is open to all amateurs (but not members of the photographic trade). All entries must be received by 31st January, 1959.

The correct solution and names of the winners will be published in the April issues of "Amateur Movie-Maker" and "Amateur Cine World".

FIRST PRIZE £35 CASH SECOND PRIZE £15 CASH

THIRD PRIZE. Any four B/W 4-minute silent films selected by the prizewinner from the Walton Home Movie Catalogue. Also 6 Consolation Prizes of any one B/W 4-minute film selected by the prizewinners from the Walton Catalogue.

All prizewinners will also receive one free ticket each to the 1959 PHOTO-FAIR.

Please send me a 16mm., 9.5mm., 8mm. copy of the WALTON QUIZ COMPETITION FILM. I enclose 37/6, 30/-, 22/6* (*delete as appropriate).

Name

Address

Post this coupon to **WALTON SOUND AND FILM SERVICES, 282 Kensington High Street, London, W.14,** or your usual dealer.

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COLORSHOT

It's as simple as pressing a button and quite inexpensive, too. A normal length scene in full natural colour costs less than a shilling. The easiest camera to load—it opens like a book giving plenty of room.

Amongst its advantages, the Colorshot has variable speeds, 14ft. governed motor run, single frame and continuous running device.

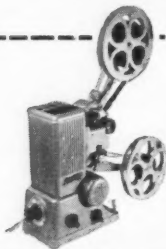
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Solid leather sling case . . . £1 14 3



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Entirely British made, the Specto '8' combines modern styling, compactness and high standard of performance at an exceptionally moderate price. Completely self-contained in a beautifully styled case and fitted out with a 9ft. lead, 200ft. spool and lamp, the Specto '8' sells at £31 10 0



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The De Luxe Projector Range, are for the discerning amateur who wants all the finer points incorporated in one projector—giving him years of trouble-free tip-top projection. Made in 8mm., 9.5mm., 16mm., 8/16mm. dual and 9.5/16mm. dual.



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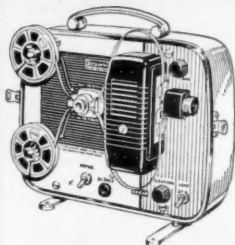
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8mm. ZEISS MOVIKON "K," f/2.8 Sonnar, four filming speeds £28 10 0
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8mm. DEKKO "128," f/2.5 coated lens ... £19 10 0
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C.8 BOLEX, f/1.9 lens, as new ... £47 10 0
9.5mm. PATHE LUX Motocamera, f/3.5 ... £9 10 0
9.5mm. PATHE "H," f/2.5 lens ... £15 15 0
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16mm. CINELOX, f/2.7 coated lens, fixed focus, 3 speeds ... £22 10 0
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SPECIAL OFFER

New lin. (25mm.) f/1.9 Dallmeyer coated cine lens. Will fit all 8mm. cameras with D threaded mounts. Focusing from 1ft. 6in. to infinity. This rapid long focus lens enables one to film on a magnified scale, and to use colour even under poor conditions. Original list price, £14. Our price £5 18 6 plus 1/4 postage. Also a few available with standard 16mm. C threads.

USED CINE PROJECTORS

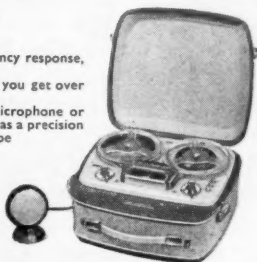
M.B.R. BOLEX projector, 500 watts, Silver Grey finish, as new ... £49 15 0
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G-8/16 BOLEX Dual, 500 watts, Stills and reverse projection, Vernier lamp control, with resistance £85 0 0
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16mm. KODASCOPE "E," 300 watts, built-in transformer ... £25 0 0

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Efficient but simple to work as a box camera	16 14 7	35 0	39 6
G.B.-Bell & Howell "Autoset"	49 19 4	100 0	118 0
G.B.-Bell & Howell "624-B" f/1-9 lens	25 10 10	50 0	60 6
G.B.-Bell & Howell "605A" Sportster, f/1-9 lens	46 12 1	95 0	110 0
G.B.-Bell & Howell "605A" Sportster, f/2-5 lens	39 8 9	80 0	93 3
1½ in. f/1-9 Serital lens	25 1 11	50 0	59 6
B. & H. Sportster Duo, f/2-5 lens	48 8 0	95 0	114 9
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Specto Colorshot, f/2-5 lens	33 3 3	65 0	78 9
Zeiss Movikon, f/1-9 lens, variable speeds. Unique design and the world famous Zeiss workmanship	41 5 2	85 0	97 3
Paillard Bolex C.8, f/2-5 Yvar	42 19 2	85 0	101 9
Paillard Bolex B.8, f/1-9 Yvar	68 14 3	135 0	162 9
Paillard Bolex B.8, VS, f/2-5 lens	60 18 11	120 0	144 3
Paillard Bolex B.8, VS, f/1-9 lens	74 15 0	150 0	176 6
Paillard Bolex B.8, VS, f/1-5 lens	106 8 4	220 0	252 9
36mm. f/2-8 Yvar lens	25 1 10	50 0	59 6
Eumig Electric, f/2-8 lens. Works from dry-cell battery. No winding	28 13 7	55 0	68 3
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Reduced Price

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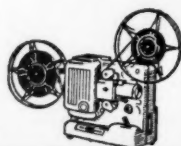
B. & H. 625-C Cine Projector
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G.B.-Bell & Howell "606"	63 0 0	125 0	149 0
Paillard Bolex M8R	68 0 0	135 0	160 9
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Zeiss Movilux	53 19 0	110 0	127 3
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Moviscop 8mm. viewer	36 2 6	70 0	87 9
Murray 8mm. viewer	13 7 6	30 0	31 3
Haynorette cine editor	17 6 0	35 0	41 0
SCREENS			
Raybright 30 x 22in. beaded	3 0 0	5 0	7 6
Raybright 40 x 30in. white	3 6 0	5 0	8 3
Raybright 40 x 30in. beaded	4 10 9	10 0	10 9
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Saja	58 16 0	120 0	138 9

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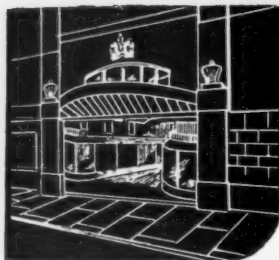
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Cine Camera
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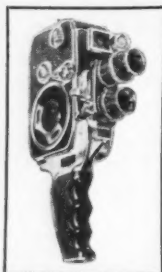
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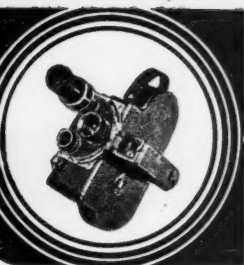
YVAR. 12.5mm. f/2.8 Foc. Mt. with
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Field adaptors 5.5mm. and 6.5mm.
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- ☐ I enclose £ : s. : d. as cash price for B.8.L. with
- ☐ Please send me full details of the B.8.L.
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NOW is the time to complete those films you shot this 'Summer' and here is a selection of new and second-hand EQUIPMENT YOU WILL REQUIRE

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FULL DETAILS ON APPLICATION

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Clydon, Actina, Kodak, and Miscellaneous Cans and Reels, 200/400/800/1,600ft., available from Stock.

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8mm. Kodak Model 8-20, f/1.9 lens	£21 0 0
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H.16, with 16mm. Yvar f/2.8, 26mm. Dallmeyer f/1.5, 3in. Dallmeyer f/2.9	£125 0 0
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8mm. Kodak 8-55, f/2.7 ctd. Ektanon and case	£20 0 0
Bell & Howell 603T, f/1.9, with case	£79 10 0
Cine Kodak 25, f/2.7	£17 10 0
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16mm. SOUND PROJECTOR 500W. AC/DC
1,600FT. REEL ARMS 12" SPEAKER. SOUND/
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1 1/2in. lenses B.T.H. S.R.B.	£3 17 6

SCREENS

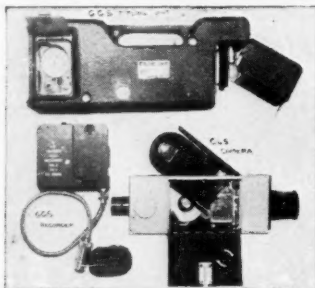
Olympia screens, white or silver, complete with side stretchers and feet. 5ft. x 4ft. £6. 4ft. x 3ft. £4. 40in. x 30in. £3. 30in. x 22in. £2. Omnis screens, white or silver, plain roller and button. 6ft. x 6ft. £6. 5ft. x 5ft. £4. 4ft. x 4ft. £3. 3ft. 6in. x 3ft. 35/-, 36in. x 27in. 30/-.

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16mm. steel spools and cans. New. In maker's wrapping. At less than half price.

800ft. spool with container	3/- post 1/3
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G.G.S. 16mm. Camera Recorders, 24v. A.C./D.C. motor operated 3 frames per sec., f/4 lin. lens, iris stop for bright and dull, built-in footage indicator, cassette loading. Ideal for Titling, animation or stereo when used in pairs. Price 30/- each complete in fitted case, with one magazine.

G.G.S. Recorders. As above, new and unused with coated lens 57/6 each. Magazine 6/6 each.

160ft. HP3 16mm. Neg. film in 10ft. lengths, sealed tins 4/6

Film. 16mm. take up cores 6 for 2/-

G.G.S. 16mm., 24v. motorised titling units, accommodating G.G.S. magazine, £2 each.

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1,000w.	110v.	Bell & Howell	1 0 0
1,000w.	110v.	G.B.N. 35mm.	1 0 0
750w.	110v.	Pre Focus	17 6
750w.	120v.	Pre Focus	17 6
750w.	110v.	Bell & Howell	1 7 6
750w.	110v.	De Brie	15 0
750w.	210v.	Pre Focus	1 0 0
750w.	230v.	Pre Focus	1 10 0
750w.	230v.	Bell & Howell	1 10 0
750w.	110v.	L.516	1 10 0
500w.	110v.	Pre Focus	1 7 6
500w.	230v.	Pre Focus	1 10 0
500w.	110v.	L.516	1 0 0
500w.	110v.	De Brie	12 6
500w.	110v.	Bell & Howell	1 7 6
400w.	110v.	Bell & Howell	1 7 6
300w.	110v.	Bell & Howell	17 6
300w.	110v.	Pre Focus	9 0
300w.	100v.	Pre Focus	9 0
250w.	110v.	Pre Focus	15 0
250w.	110v.	Edison Screw	15 0
250w.	230v.	Pre Focus	15 0
250w.	50v.	Pre Focus	15 0
200w.	110v.	Pre Focus	8 0
200w.	110v.	For K.16	15 0
200w.	110v.	A.S.C.C.	12 6
200w.	50v.	Pre Focus	15 0
150w.	230v.	Aldis A.S.C.C.	15 0
100w.	220v.	Pre Focus	10 0
100w.	100v.	Pre Focus	5 0
100w.	110v.	A.S.C.C.	12 0
100w.	30v.	Specto PF	15 0
100w.	12v.	Pre Focus	10 0
72w.	12v.	Pre Focus	5 0
Pre Focus Lamp Holders			7 6
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12 rolls 25ft. slow or fast Pan	10/-
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25ft. DOUBLE RUN NEGATIVE FILM

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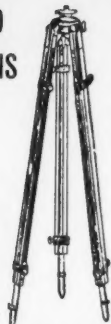
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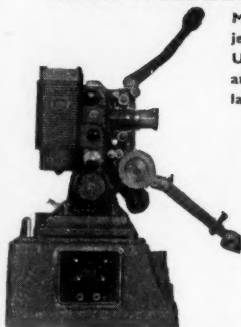
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New best quality tripods with double lock on sliding legs, weight 7½ lb. extending from 3ft. 2in. to 5ft. 2½in. Price 50/- p.p. 2/9. With adaptor head for use with all types of cameras, 8/- extra. Heavy duty ball and socket pan heads £1 extra. Suitable for any tripod.

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Model UA Sound Projector as used by the U.S. and British Forces and ideally suitable for large audiences.

Comprises:

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- 1,600ft. arms.
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Price £75.0.0 Hire purchase terms arranged.

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All spares for the Ampro from stock, including kits of claw, gate, cam and gear, speed control, brushes, switch, belt, pilot lamps, etc. £3 0 0. Spare lamps, 750w., 27/6. All other spares available from stock, please state requirements.

AMERICAN AMPRO PREMIER 20 1,000w. SOUND/ SILENT. FAST REWIND, STILLS/REVERSE, 12in. SPEAKER, 1,600ft. ARMS £100.

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500w. lighting, A.C./D.C. 200/250, sound/silent speeds, 1,600ft. arms, 12in. speaker, automatic film trip, blimp case, fully guaranteed, spares available from stock. Part exchanges on your silent machine invited. We have a few new and unused L.516 projectors at £90. Spare 500w. lamps, 30/- each. We have a few of the earlier G.B. K.16 projectors, 200w., 200/250v. A.C./D.C., 10in. speaker, ... £45 0 0 New British Acoustics non. sync. gram units. Gerrard A.C. 200/250v. silent induction motor, 12in. turntable, volume control. Gerrard Pick-up. In steel black crackle finished carrying case with locks and keys (carriage 5/-) £4 10 0 Supplied with jack plug for L.516 projector. Not suitable for L.P. records.

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Solidly built to withstand any rough handling. Truly an engineering piece of machinery to last a lifetime. Spares are available if required. ★Blimp case. ★300w. lighting equal to any 500w. machine. ★Speaker and cable. ★200-250v. A.C. ★Built-in amplifier. ★1,600ft. arms. ★Adjustments readily accessible. ★Oiling from one central point. ★Provision for pick-up. Price £55. Sound/Silent model, £60. H.P. Terms arranged. Spares in stock, state requirements. Spare lamps, 300w., 15/-.

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Pathe 8mm. film menders, new, 5/9 each. Patchescope Aurator, mint, £39; Small A.C./D.C. mains motors suitable for Projector Drive, new, 52/6; New folding Projector stand, 4ft. high, Top 2ft. x 13in., £6/6/-; Empty 50ft. Siemens Cassettes. As new, 20/-; Empty 50ft. Kodak Cassettes. As new, 7/6; G.45 16mm. claw and shutter mechanism with gears, suit experimenter, 12/6 each. Bell & Howell 16mm. Micro film reader, motorised or hand, fitted case, £25 0 0.

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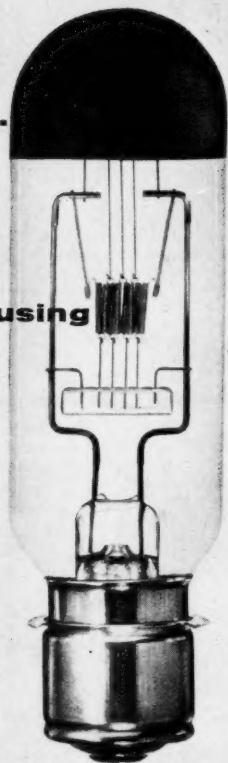


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The projector manufacturer provides a complex machine, constructed to work efficiently within very small tolerances. To obtain the best possible results from such a machine it is only fair to ensure that as much care and skill has gone into the production of the light source.

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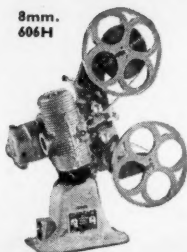
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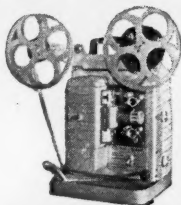
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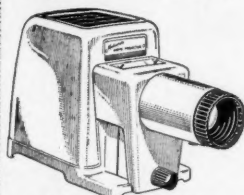
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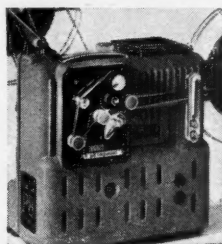


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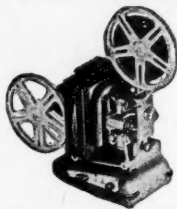
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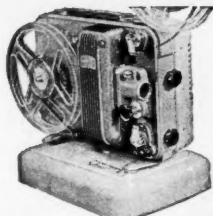


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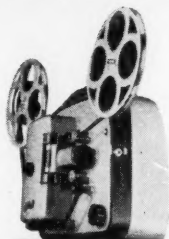
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PRICE ... £59 17 6
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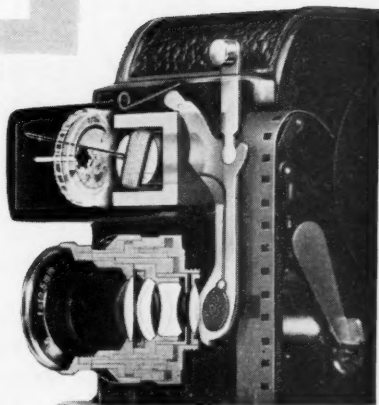
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Correct exposures are always guaranteed because the photo-cell that computes the lighting conditions is immediately behind the lens. It therefore measures only the

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Any type of film can be used and the photo-cell is adjustable for films of all sensitivities.

And with the B8L, simplicity is allied to technical refinements and its specification

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B8L

74'19'9

with Year 12.5 mm f/2.5 fixed focus lens.

The Pistol Grip. Illustrated. fits all C8/B8/B8L cameras. Price £6.5.5.

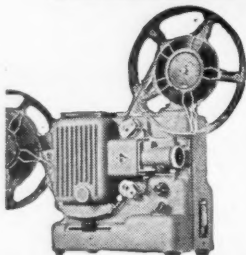
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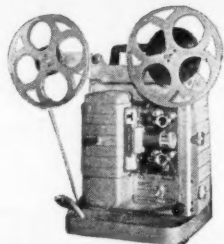
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8mm.
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P.8

f/1.6 coated lens for brilliant pictures. 400ft. capacity
—arms fold away when not in use. An extremely
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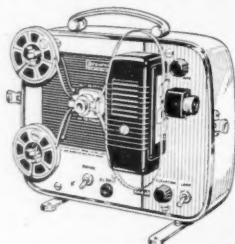
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8mm.
G.B. 625

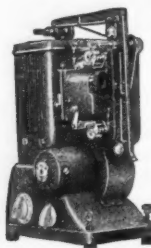
500w. lighting, f/1.6 highly corrected lens, automatic
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KODAK
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8-58

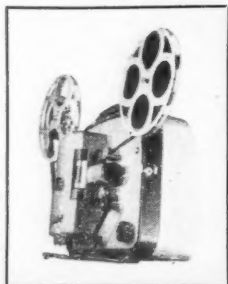
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8mm.
9.5mm.
16mm.

9.5mm., 100w....	£39 10 0
9.5mm., 500w....	£48 10 0
9.5/16mm. 100w.	£49 5 0
9.5/16mm. 500w.	£59 15 0
8mm., 500w. ...	£36 0 0
16mm., 500w. ...	£52 0 0



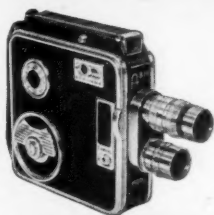
THE LATEST FROM SPECTO SPECTO 8

Fitted with f/1.6 coated projection lens for brilliant pictures, quiet-running motor, and 500 watt lamp ensures flickerless operation. Single control for motor, lamp and variable speed regulator—power rewind, 400ft. film capacity. Attractively styled in self-contained leather-cloth covered case.

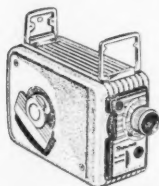
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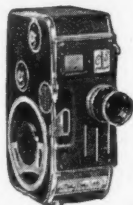
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f/1.9 fixed focus lens, fitted with photo-electric cell which automatically sets the correct aperture while filming. Standard 25ft. D/R spools ... £49 19 4



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f/2.8 fixed focus and f/3.5 telephoto lenses on turret head, optical viewfinder, five speeds and single picture device. Takes standard 25ft. D/R spools. (including Case) ... £50 8 0



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8mm. BOLEX C.8
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8mm. COLORSHOT 88
f/2.5 fixed focus lens, four filming speeds, governed motor for constant speeds. Featuring the color-shot dial for instant aperture setting ... £33 3 3

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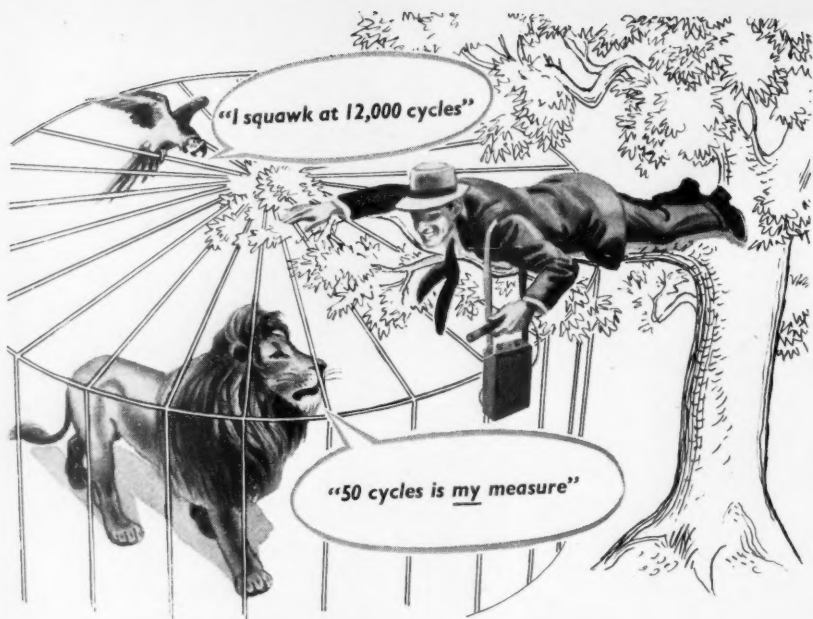
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FI-CORD *hi-fi* portable Tape Recorder

(weighs only $4\frac{1}{2}$ lb.) which records on standard tapes at standard speeds ($7\frac{1}{2}$ and $1\frac{7}{8}$ i.p.s.) and adds living sound to ciné.
Frequency response: 50-12,000 c.p.s \pm 3db. Rechargeable batteries.

79 gns. complete with battery charger



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or direct from:

FI-CORD LTD. 40a Dover Street
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BOLEX

M·8·R

Efficient light trap—no distracting overspill shining on the ceiling.

Swing open lamp house with shock absorbing lamp holder fitted to door for easy access.

Large spool capacity for uninterrupted half-hour shows. Rapid power re-wind—400ft. in 15 seconds. Alternative hand re-wind also standard.

Easier threading with the Bolex quick loading film protection guides.

Extra fast f/1.3 lens allied to a specially designed optical system gives possible picture magnification of 400,000 times. Only optics with such a high specification ensure that a powerful 500 watt light output is fully utilised to give such an outstanding performance.

Greater film protection from polished stainless steel gate and pressure plate. A swing-open gate is provided for maximum ease of cleaning and loading.

No loss of loop due to an exclusive "Loop Former" that automatically re-forms loop if lost. This enables films with damaged perforations to be projected in absolute safety.

Simplified cleaning. You can actually clean your gate during projection, thus removing annoying spots and hairs which always accumulate during a show.

Any location with the M8R—individual raising feet enable it to stand completely square on uneven surfaces.

Low speed film protection from smooth action speed control with exclusive and automatic safety regulator.

Instantaneous press-button stop. Centralised mains switch cannot turn on lamp until motor is running.

House lights automatically controlled by connecting to projector "house light socket." As projector light goes on, house lights go off—and vice versa.

Weight only 11½ lbs. Only 3 lubrication points. Built-in back lighted neon stroboscope assists in checking running speed.

NOW ONLY £59.17.6

CARRYING CASE
EXTRA
£5.15.0

Complete with 20mm. f/1.3 Hi-Fi lens and 500 watt lamp



CINEX LTD., Bolex House, Burleigh Gardens, Southgate, London, N.14. Phone: Fox Lane 1041

If you own a **BOLEX** Camera—
your obvious choice for a Projector is the

**BOLEX
M8R
8mm.**



Incorporating all the latest improvements—the M8R is the ideal projector for the home. With the new 20mm. f/1.3 Hi-Fi lens giving sharp and brilliant pictures. 400ft. spool arms, 500ft. lamp. Now reduced in price to: **£59 17 6**

Or deposit 177/6 and 8 monthly payments of 137/-.

Bolex Accessories for Perfect Projection

BOLEX 8mm. TITLER

A complete 8mm. titling outfit which is both practical and easy to handle, producing every kind of title and special effect desired. PRICE, which includes full kit of accessories, reflectors, set of 200 letters and figures. **£29 15 0**

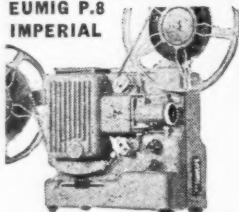
BOLEX SYNCHROMAT

With the Bolex Synchroniser, used in conjunction with the M8R projector and any Tape Recorder—you can provide perfectly synchronised speech and music to your 8mm. films. Turn YOUR silent 8mm. films into "Talkies" with a Synchronmat! PRICE, complete... **£30 0 0**

NEW BOLEX 16mm. H.16-M

The latest 16mm.—a simplified non-turret H.16 camera which retains interchangeability of lenses. Fitted with new "Zoom" type viewfinder. For 50 or 100ft. spool loading—the H.16-M is supplied with 25mm. f/1.8 Berthiot Lytar lens. PRICE **£102 15 5**

EUMIG P.8 IMPERIAL



The P.8 Imperial fitted with built-in Sound Coupler, enables one to add synchronised speech and music to your own 8mm. films, when used with any Tape Recorder. With 400ft. spool arms, powered rewind. PRICE: **£37 10 0**

Or deposit 110/- and 8 monthly payments of 86/-.

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★ *For Quality*



Direct from
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**PAILLARD
BOLEX**

**8mm. B.8L
Compumatic**

The only 8mm. camera in the World which does not use guesswork—but actually computes exposures! Featuring new type of built-in lightmeter with photo-cell behind the lens. Twin-lens turret head with interchangeable lenses. Variable shutter. Seven filming speeds and many more advantages which make this the camera of the year! PRICE, with 12.5mm. f/2.5 Yvar lens... **£74 19 9**

G.B.-BELL & HOWELL 16mm. 631 FILMOSOUND

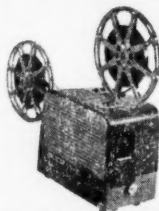
This superb instrument designed for a lifetime of dependable service will show both sound and silent, colour and black and white. Sapphire inserts reducing wear on vital parts. Helical gear driven: 750 or 1,000w. illumination. PRICE including trans., 12in. speaker **£264 0 0**

CINE BARGAINS

Sporister 605, f/2.5 Mytal 5-speeds, leather case... **£29 10 0**
G.B.-B. & H. 624, f/1.9... **£25 10 0**
Viceroy, 12.5mm. f/2.5 Mytal, 1in. f/1.9 Super Comat, 1in. f/1.9 Serial. Case... **£75 0 0**
B. & H. Filmo 8mm. f/2.5 lens, 4-speeds, 2 filters, leather case. **£27 10 0**

Bolex H.16 Filterslot, 25mm. f/1.9 Pizar, Malor case. MINT. **£120 0 0**

Eumig C.8 f/2.8 lens **£21 0 0**
Pathe Webó Super 16mm., 1in. f/1.9 Som Berthiot, 75mm. f/3.5 Tele. Cinor; Reflex focusing, 6-speeds, 8-80 f.p.s. Hide case (SHOP-SOILED ONLY) AS NEW... **£210 0 0**
Bolex G.3 Projector, all accessories and set of sound sprockets. Carrying case. 750w. lamp **£105 0 0**



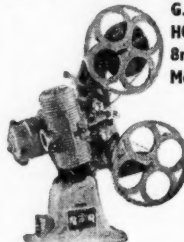
**G.B.-BELL
& HOWELL
16mm.
Model 640**

For Optical and Magnetic Sound reproduction—the Model 640 sets the standard by which all other projectors are judged. The quality of reproduction is outstanding. With sapphire inserts on vital parts for longer life, interchangeable magnetic heads covering edge, half and full stripe film. PRICE complete with trans., 750w. lamp **£366 0 0**

Write for full details and Easy Terms. Demonstrations gladly arranged at your convenience.

SERVICE FOR ALL

We operate our own highly efficient Repair Department for the servicing of all Projectors. Many leading Industrial Companies in the country entrust us with the supply and maintenance of their equipment—for they know from experience our AFTER-SALES SERVICE is second to none. A very good reason why YOU should contact US for all your Cine requirements!



**G.B.-BELL & HOWELL
8mm.
Model 606H**

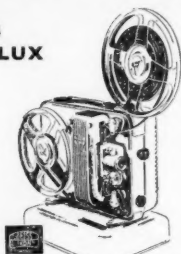
A really immaculate machine—the 606H is extremely silent in operation. With all-gear drive mechanism, and still picture device with powered rewind, 500w. lamp. PRICE **£63 0 0**
Or deposit 190/- and 8 monthly payments of 143/10.

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SPECIALISTS

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ZEISS MOVILUX 8B



This is a superbly made silent running machine employing the new 8v., 50w. high intensity cold lamp which gives the equivalent of 750 watts at mains voltage. Power rewind. Fitted with f/1.5 Comat lens, giving overall crispness to the picture. PRICE: £53 19 0 Or deposit 160/- and 8 monthly payments of 123/6.

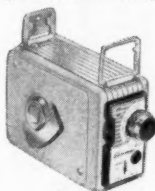
The Perfect Companion to your Movilux 8B is the

MOVIPHON B RECORDER

Specially designed to match up with the Movilux projector—the MOVIPHON enables sound to be added to your 8mm. films simply and with real professional effect. Perfect synchronisation of speech and music—the Moviphon has twin sound tracks which can be recorded and played back separately or simultaneously. PRICE: £77 0 0

COMPLETE CINE OUTFIT FOR ONLY 125/- DOWN!

"BROWNIE" EIGHT-58 8mm.
Projector
and the "BROWNIE" MOVIE
Model II Cine Camera
(Cash Price £41 14 7)

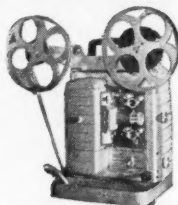


A wonderful new projector showing your home movies at their best. Beautifully styled and compactly designed—giving a brilliant 30 x 40in. picture in average sized room. PRICE ONLY £25 0 0 Or deposit 75/- and 8 monthly payments of 57/2 with the

"BROWNIE" MOVIE II
With 13mm. f/2.7 Cine-Ektanon lens, double-run 8mm. Suitable for colour or black and white.
Price £16 14 7

Or deposit 50/- and 8 monthly payments of 38/3 OR THE COMPLETE OUTFIT (Camera and Projector) FOR ONLY 125/- down and 8 monthly payments of 95/4!

THE POPULAR G.B.-BELL & HOWELL 8mm. Model 625G



This is the perfect companion to your Model 624 or 8mm. Autaset camera. Featuring variable speed control with its large aperture f/1.6 coated lens and 500w. lamp ensuring brilliant clear pictures. Silent running; power rewind. PRICE: £35 0 0 Or deposit 105/- and 8 monthly payments of 70/-.

G.B.-BELL & HOWELL 8mm. 'AUTOSET'

The 8mm. cine camera that instantly adjusts and sets the lens to changing light, with the automatic exposure control. Fitted with f/1.9 Super Comat lens; large viewfinder, 3-way starting button. Available from Stock.
PRICE: £49 19 4 Or deposit 150/- and 8 monthly payments of 114/2.

CINE VIEWERS

ZEISS MOVISCOP EDITOR—the world's best. Superbly finished, giving a large picture with amazing brilliance. Built-in switch and voltage selector.
8mm. Model £38 2 6 16mm. Model £3 16 6

THE HAYNOR, a new and improved model with a larger and more brilliant viewing screen. For 8mm. film. Complete with rewind arms on baseboard.
£21 6 0

PORTAY 8mm. EDITOR, a compact and self-contained editing outfit—the Portay has a built-in 2 1/2 x 1 1/2 screen, geared rewiner. Takes reels up to 400ft. PRICE: £13 19 6

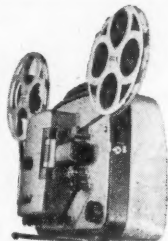
NEW CAMERAS —on easy terms

	Cash Price	De-posit	Eight Pay-ments
8mm. Cameras			
G.B.-B. & H. 624B ..	£25 10 10	70/-	59/3
G.B.-B. & H. 624 EE ..	£49 19 4	150/-	114/2
Eumig Electric, f/2.8 ..	£28 13 7	85/-	65/8
Bolex C.8, f/2.5 ..	£42 19 2	126/-	98/7
Bolex C.8, f/1.9 ..	£56 15 3	168/-	130/-
Bolex B.8-VS, f/2.5 ..	£60 18 11	180/-	171/4
Sportster 605A, f/2.5 ..	£39 8 9	117/6	90/3
Sportster 605B, f/2.5 ..	£48 8 0	145/-	110/7
Sportster 605C, Tri-lens ..	£53 6 7	160/-	121/9
Movinette 8B, f/2.8 ..	£41 8 2	120/-	84/9
Movikon 8, f/1.9 ..	£50 15 0	155/-	115/7
Bolex B.8-VS, f/1.9 ..	£74 15 0	222/-	171/4
16mm.			
G.B.-Autoload 603, f/1.9 ..	£84 13 11	252/-	193/9
G.B.-Autoload 603T, f/1.9 ..	£101 18 1	303/-	233/2
Eumig C.16, f/1.9 ..	£131 9 0	394/-	300/3
Bolex H.16 Reflex, f/1.5 ..	£209 2 6	627/6	477/8
Bolex H.16-M, f/1.8 ..	£102 15 5	306/-	235/1

NEW SPECTO '8' PROJECTOR

With ultra modern styling, light and compact—the latest SPECTO "8" 8mm. projector represents outstanding value at such a low price. 400ft. spool arms, 500 watt main volt. lamp. Quick, easy threading and power rewind. PRICE £31 10 0

Or deposit 95/- and 8 monthly payments of 71/11.



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CAMERAS

	Cash Price	Deposit	36 weekly
Kodak Brownie Movie II, f/2.7, f.f., ...	£16 15 0	£1	9.2
Bell & Howell 624EE "Autoset", f/1.9	£49 19 4	£3	27.5
Bell & Howell 824B, f/1.9, f.f., ...	£25 10 10	£2	13.9
Bell & Howell 605A "Sportster", f/1.9	£46 12 1	£3	25.5
Bell & Howell 605A "Sportster", f/2.5	£38 8 9	£2	21.10
B. & H. 605B "Sportster" Duo, f/2.5	£48 8 0	£3	26.6
B. & H. 605B "Sportster" Duo, f/1.9	£55 11 4	£3	30.8
Zeiss Movikon, f/1.9 foc. ...	£41 5 2	£3	22.4
Zeiss Movinette 8, f/2.8	£32 8 4	£2	17.9
Zeiss Movinette 8B, f/2.8 and meter	£41 5 2	£3	22.4
Bolex C.S., f/2.5 Vvar, f.f., ...	£42 19 2	£3	23.4
Bolex C.S., f/1.9 Vvar, foc. ...	£56 15 3	£3	31.4
Bolex C.S., f/2.5, f.f., fixed speeds ...	£35 17 0	£2	19.9
Bolex B.S.VS., f/2.5, f.f., ...	£60 18 11	£4	33.3
Bolex B.S.VS., f/1.9 Vvar, foc. ...	£74 15 0	£4	41.3
Bolex B.S.L., f/2.5 f.f. and meter	£74 19 9	£4	41.3
Bolex B.S.L., f/1.9 f.f. and meter	£88 15 10	£5	48.11
Eumig Electric, f/2.8 f.f., ...	£28 13 7	£2	15.7
Eumig C.3, f/1.9, meter ...	£84 10 7	£4	35.4
Eumig C.3.B., f/1.9, turret and meter	£72 18 0	£4	40.2

PROJECTORS

B. & H. 625, 300w., variable speeds	£35 0 0	£3	18.4
B. & H. 606, 300w., variable speeds	£63 0 0	£4	34.3
Bolex HBR, 300w., sound sync.	£59 17 0	£3	33.2
Zeiss Movilux, sound sync.	£53 19 0	£3	29.9

SCREENS

Raybrite, 30 x 22in., beaded ...	£3 0 0	10/-	1.6
Raybrite, 40 x 30in., white ...	£3 0 0	10/-	1.8
Raybrite, 40 x 30in., beaded ...	£4 10 9	10/-	2.4
Starlite, 30 x 24in., white, tripod	£10 5 6	10/-	5.3
Starlite, 40 x 30in., beaded, tripod	£9 7 0	10/-	5.2

EDITORS

Murray Editor ... four ...	£9 19 6	10/-	5.7
Murray Portay, portable, complete ...	£13 19 6	£1	7.7
Haynortie complete editor ...	£17 0 0	£1	9.6
P.S. Inspection Viewer ...	£3 15 0	10/-	1.11

LENSES FOR 8mm. CAMERAS

6.5mm. Dallmeyer, f/2.5 W.A. ...	£15 16 8	£1	8/-
1 1/4in. Dallmeyer, f/4 Tele. ...	£11 10 7	£1	6.2
1 1/4in. Dallmeyer, f/1.9 Tele. ...	£18 18 5	£1	10.5
1 1/4in. T.T.H. Serial, f/1.9	£25 1 11	£2	13.6
8mm. Kera-Vvar, f/2.8	£25 1 10	£2	13.6

EXPOSURE METERS

Zeiss Ikonoph, with case ...	£9 3 1	10/-	5.1
Weston Master III, Cine ...	£9 7 7	10/-	5.2
Sixty Meter ...	£9 16 6	10/-	3.2
Sixon Meter ...	£5 16 6	10/-	3.2

SPLICERS

Rino, 9 1/2mm., with scraper ...	£5 15 0	10/-	3.1
Siemens, 9 1/2mm., with scraper ...	£4 19 6	10/-	2.7
Margnet De Luxe, tri-film with scraper	£4 0 0	10/-	2.1
Eumig Splicer ...	£2 5 0	5/-	3.2
Bolex tri-film ...	£5 19 6	10/-	1.2

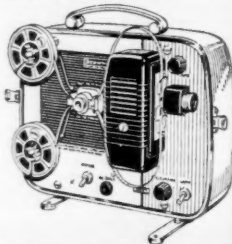
LIGHTING SETS

Movilite portable, two sockets	£5 19 6	10/-	3.2
Movilite portable, two sockets	£3 19 6	10/-	2.1

THE NEW KODAK BROWNIE EIGHT-58 PROJECTOR

Completely enclosed in a moulded case, this projector has a well designed optical system built around the new Philips sv. 50w. cold lamp. Features include: Power rewind—Nylon bearings hence no lubrication needed—200ft. spool capacity—and Synchronous motor with constant speed.

£25 Cash price.
£2 deposit and 36 weekly payments of 13.6d.



shooting cine

By Howard Byrne

Managing Director of Transatlantic News, Mayflower Studio and Piccadilly Photo Centre, author of "Without Assignment"

Curtain Up!

How would you like to make a colour film of a nativity play or pantomime with one of your children in a prominent role?

Well, that's what I'll be doing just before Christmas.

Only the play is not in the West End. It's in the little school around the corner where Johnnie, my seven-year-old, attends. And the role—well, between ourselves, it's only four lines. John plays a Hebrew child and will appear on stage briefly wearing a flowing robe made from a flour sack. But there couldn't be more excitement in our family if it were the West End. We've rehearsed those four lines so often I say them in my sleep.

The same sort of thing may be happening in your family. There is certainly a school play going on in your neighbourhood and whether your youngsters are involved or not it will probably provide excellent grist for your cine mill. And it's a sure-fire box-office subject—all the mums and dads will want to see it.

Probably you won't be the only dad filming it. Lots of dads have cine cameras these days, so you might as well team up from the beginning. Then you can pool your film and splice it up into one master reel which contains the best footage. If any of the dads want to interlard the master with extra footage on his own little darling they can order an extra print and splice it up themselves.

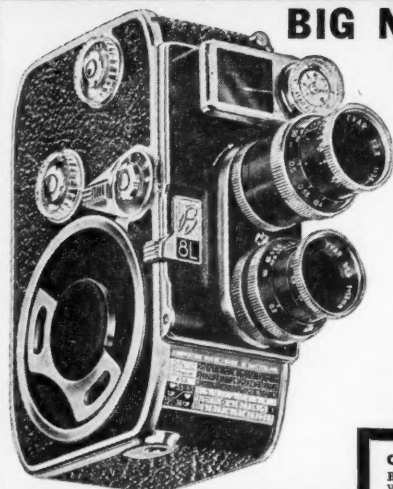
The important thing is to standardize your gauge because 8mm., 9.5mm. and 16mm. just don't mix well. And you'll also have to decide whether your film is to be colour or monochrome. This will be a fine excuse for a production conference in the pub.

Colour is the thing, of course, but will you have enough light? Here's where good liaison with teacher comes in handy. She'll probably have no objection to you rigging up some floodlights but don't spring it on her at the last moment. She'll be all in a tizzy trying to get the curtain up.

The school will probably be thrilled about the film. They're sure to invite you to screen it for the Parent-Teachers' meeting. If you dads really want to strut your stuff why not get some of the sound down on a tape. I'm not suggesting lip sync.—unless you're really an ambitious bunch—but a bit of the music and a vocal commentary by the headmaster would lift your film out of the silent class and give it a professional touch.

Does all this seem like a lot of work? Of course it is. But remember it's your hobby, chaps! So you'll enjoy every minute of it and so will your audience.

I only hope your youngster doesn't forget his lines and rush off the stage in tears and confusion like Johnnie did once. But if it happens don't take your finger off the button. It could be the best comedy sequence of the lot.



BIG NEWS! PAILLARD BOLEX put the eye where it belongs B.8.L. COMPUMATIC

This camera resembles the famous B.8 in appearance with a twin lens turret, 7 filming speeds, variable shutter, zoom type viewfinder, continuous and intermittent running, single shots device and has in addition the new light meter which is built behind the lens. Because of this unique positioning, the shockproof cell catches only the light passing through the lens eliminating any possibility of exposure distortions from light outside the lens angle.

Limited quantity available—Place your order NOW.

Prices:

B.8.L., with 13mm. Yvar, f/1.9 .. £88 15 10

B.8.L., with 12.5mm. Switar, f/1.5 .. £120 9 2

Special combination case .. £5 7 6

Pistol grip .. £6 5 5

Note our trade-in allowances:

£30-£35 on your B.8, with f/2.5 Yvar lens—£40-£45

on your B.8., with f/1.9 Yvar lens. £45-£50 on

your B.8.VS, with f/1.9 Yvar lens—£65-£70 on

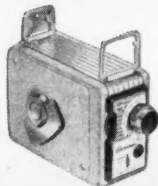
your B.8.VS, with f/1.5 Switar lens. £25-£30 on

your C.8, with f/2.5 Yvar lens—£30-£35 on your

C.8, with f/1.9 Yvar lens.

Allowance on your camera can be used as deposit and balance plus 5% paid over 9 months.

BROWNIE MOVIE MODEL II



A simple camera for standard 8mm. double-run film, with f/2.7 Ektanon lens, fixed focus. Exposure guide for indoor and outdoor shots clearly marked beside the lens for easy reference. Original price £18 16 6. Now only £16 15 0 or £1 down and 36 weekly payments of 2/3d.

CINE SNIPS

B. & H. 16mm. 200 Magazine with Woolanuk 1in. f/1.9 foc., and T.T.H. Cooke 3in. f/4. Variable speeds complete with viewfinders and case ... £79 10 0

B. & H. 16mm. Autoload Magazine, with T.T.H. Cooke f/1.4 Ixtal, box and instructions ... £69 10 0

G.I.C. 8mm. Berthiot f/2.5 fixed focus lens, interchangeable with case £22 12 6

Bolex B8 with 13mm. f/1.9 Yvar. Mint ... £55 10 0

Cine Kodak 8-20, spool load, f/1.9 foc. lens, single speed, 3 filters and case ... £18 10 0

Cine Kodak 8-20, spool load, f/3.5 fixed focus lens, single speed, with case ... £17 17 6

Pathoscope "M" f/2.5 fixed focus lens ... £12 10 0

BOXING CLEVER

When your camera breaks down and you send it to us for inspection and repairs do you worry about posting it? Our repair department has made up wooden boxes, lined with sponge rubber to make them shockproof. If you'd like to have the use of one let us know the equipment you are sending and we will gladly loan you a box of the right size. After repairs your camera will be returned the same way. No charge for the use of the box. It's all part of the service.



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ACW 12

- **Brilliant white surface**
- **Counterbalanced self-erecting action**
- **Instantly ready for use**

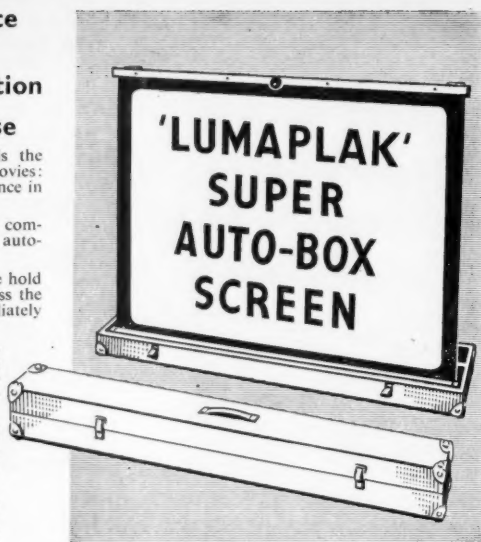
The new Lumaplak Super Autobox is the finest screen for colour slides or home movies: it is the culmination of 25 years experience in screen design and manufacture.

The highly efficient screen surface is completely protected from damage by the automatic action of the roll-up mechanism.

To erect the screen, open the lid, take hold of the knob and pull up. To close, press the knob gently down and the screen immediately rolls down ready to pack away.

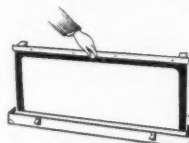
The high-grade grey leathercloth-covered case has chromium plated fittings; corners have non-scratch rubber buffers to protect the case and table or wall surfaces.

Sound engineering experience and good workmanship are evident in the automatic spring counterbalance action. The folding arms are made of seasoned hardwood finished in matt natural polish, with metal parts cadmium-plated to prevent rust. The toggle joints are spring loaded so that they always remain firm and smooth in operation.

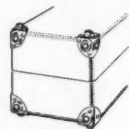


Regd. Trade Mark No. 614512

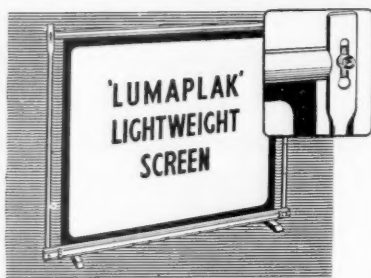
Approx. Overall Size	Actual Picture Size	Matt White	Glass Beaded
40" x 30"	38" x 28 1/2"	£ 11 17 0	£ 13 2 0
Dual 40" x 30" or 40"	38" x 38"	£ 12 17 0	£ 14 17 0
52" x 40"	48" x 38"	£ 13 12 0	£ 15 0 0
Dual 52" x 40" or 52"	48" x 48"	£ 14 14 0	£ 16 0 0
68" x 45"	57" x 43"	£ 17 0 0	£ 19 17 6
Dual 68" x 45" or 60"	57" x 57"	£ 22 0 0	£ 26 0 0



A pull on the knob and the screen erects itself.



Rubber buffers protect the case and the table.



Regd. Trade Mark No. 614512.

- **Easy to Erect**
- **Sturdy construction**
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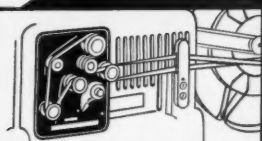
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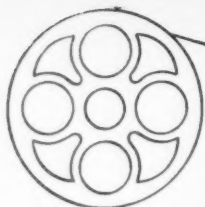


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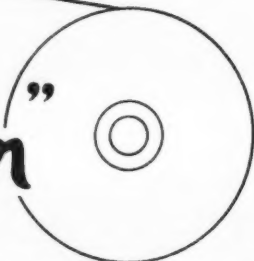


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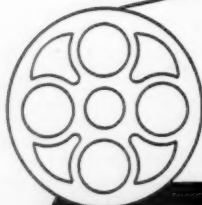


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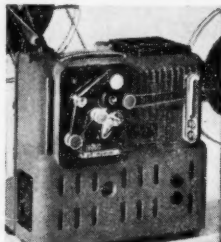
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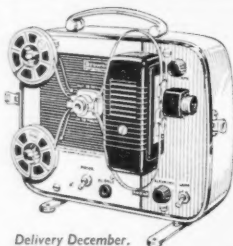
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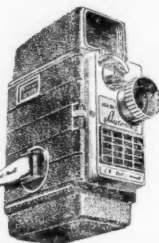
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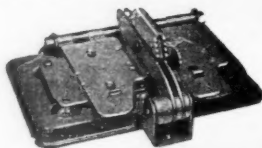
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AMATEUR CINE WORLD

DECEMBER, 1958
Vol. 22, No. 8

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LIGHTING (Filming Indoors, How to Make Series-Parallel Switch Box, Portable Lamp Bar, High Intensity Lighting Unit, Incident Light Meter, Using Tri-X, Indoor Exposures). Pages 792-802.

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Doing It Yourself

is too much emphasis placed on Do It Yourself by amateur movie makers? The attention paid to it in this issue is, we think, sufficient indication of where A.C.W. stands. Readers of this magazine were among the very first to respond to this persuasive slogan; indeed, we could almost make out a case for having originated it, for we were using it regularly twenty years ago as a generic title for constructional articles.

Of course, there is danger as well as virtue in it. Prefacing their description of their own pet gadget for this special Do It Yourself number, some of our regular contributors pointed out the perils of getting too interested in gadgetry. They were quite right to do so, but the fact remains that the ramifications of film making are so complex and exacting that the lone worker, in particular, just has to learn to help himself. If he concentrates on, say, script writing or directing, he will be largely untouched by the mechanical aspect, but if he has to do most things for himself—as the majority of us have to—he comes up against it at every turn.

The saving in cost by doing it yourself is, of course, a powerful incentive, yet often it takes second place to the pleasure of doing and of

Editor: GORDON MALTHOUSE

having done the job. You do it *your* way. Even if exact working instructions are given, they may not suit you, but you can always adapt them to suit your own ideas and facilities. Some folk need no more than an idea to enable them to produce a useful gadget or try out a new technique, but the less adept can comfort themselves with the reflection that there is no special virtue in working out for oneself what somebody else has already done.

As in making a film, the first stage is planning the job. It always pays to draw up detailed sketches, so that you know exactly what is involved and can settle at the outset any snags which might arise; if they became evident only during the actual construction, you might run into a lot of bother. For the same reason, make out a complete list of the parts required; you won't then have to kick yourself for buying 3in. bolts and later finding that you can't possibly manage with less than 3 1/2in.

Although, however, successful film making and gadget making are alike in demanding careful preparation, the outlook of film producer and home constructor should differ in one important particular. The former is very properly urged not to undertake subjects outside his resources, whereas the latter need not limit himself to jobs he can tackle entirely on his own. If he is prepared to look for it, there is usually plenty of help to be had at moderate cost.

For example, many garages will undertake small welding jobs, besides assisting by threading rods. Electrical installation people will often supply tube cut to length and threaded to one's own requirements; they also supply parts from which tubular gadgets can be constructed. Iron-mongers can supply lots of small fittings, as well as solid walled gas pipe threaded to suit specific requirements. Many metal workers are glad to help out with small sheet metal parts to form the basis of the article you are producing. So even relatively ambitious projects may not be beyond you. Small firms, it should be noted, are usually more forthcoming than large ones. Good looks are important, too, so bear in mind the advisability of sending out parts for stove-enamelling, plating or engraving; and don't spoil the job for a ha'p'orth of paint, stain or polish.

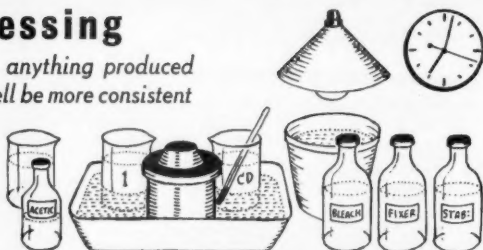
Do it yourself... You do it—you don't just think about it. You find you learn in the process and from using what you have made, for you have translated theory into practice. And you will know you have made a good job of it when you are asked in respectful tones: "Did you make it?"

Christmas greetings to amateurs everywhere from A.C.W.

Home Processing

can yield results as good as anything produced by the labs—and they may well be more consistent

All set! The tank, loaded with film, sits in a dish of water at 68 deg. together with the two developers. The other solutions are in their bottles. A bowl of water and a photoflood in a shade are ready for the re-exposure, while a wall-clock makes correct timing easy.



HAVE you ever wished that your colour shots taken one afternoon could be projected the same evening? Have you ever wanted to make preliminary tests in colour before carrying out the major part of an experimental filming? Have you ever waited impatiently to see how a short record at the beginning of a long film turned out—while the rest stayed unexposed in the camera?

Well, it's nothing like as easy as posting the film off to the makers and waiting for its return; but if you are willing to make the effort, and are prepared to make a modest outlay on chemicals and equipment, you can now process 16mm. or 8mm. colour film at home. Not only so; the results can be as good as anything produced in the professional labs, and may well be more consistent.

The film which has made this possible is new Cine Gevacolor R5. This material, like the Ferranicolor, Ektachrome and Anscochrome which still-camera users process for themselves, contains the substances which help produce the final dyes. In this it differs from Kodachrome, the dyes of which are produced by several baths in processing. The result is that, instead of a series of dye-developments to form the yellow, magenta and cyan images, all three can be formed during a single stage of the processing. This means that no complicated machinery is needed.

If you already possess a drum to take a full-length film (nominally 25, 50 or 100ft.), or are prepared to invest in one, the details which follow can be applied to whole spools of film. But they are primarily intended to guide the experimenter wishing to take his first step in colour processing. For this reason, relatively small quantities of the chemical baths are quoted in the list of formulae, and the small spiral tanks taking five or ten feet of film are suggested. These have the considerable advantage that once the film has been loaded into them in total darkness, all other steps can be carried out in normal lighting.

To clarify the situation, let us consider the essentials of colour processing. First, the film is developed in a solution quite similar to that used for black-and-white negatives, but specially composed to give the necessary balance and character of the film. In this step, the temperature

and the timing are important factors, calling for greater care even than with reversal monochrome film. At the appropriate stage, development is stopped with a bath of weak acid, then the film washed to clear it of traces of developer and stop bath. The film is then given the second, fogging, exposure to bright light for a few minutes.

This is followed by the colour-development in which a special formula produces dyes in each emulsion layer at the same time as the fogged silver salts are developed. This development, too, is stopped by a weak acid bath and followed by a wash. All the silver in the film is then converted to white salts by a "bleach" bath, which also hardens the gelatine, and in the following step the salts are dissolved out by a fixer. After washing, the film is briefly soaked in a stabilising solution, which preserves the dyes from deterioration.

It must be made quite clear that the steps described above are not necessarily the same as those used by the makers in processing. These are a trade secret, while the details given in this article are based on the writer's own experimental findings. Accordingly, the makers are in no way responsible for the results obtained by the individual processor, and must not be expected to deal with queries or complaints about this quite unauthorised use of their products!

Now to a few practical preliminaries: The handiest form for the experimenter using either gauge of film is the 25ft. length of double-8. True, it costs proportionately more than 16mm., and has to be re-spooled before it can be used in a 16mm. camera, but it is conveniently small amount for first trials. When using short lengths—as for experimental tests, animation or titling—unspooled film can be loaded in the darkroom, allowing it to lie in a loose coil in the camera. For short lengths, there are two spiral tanks on the market designed for 16mm. film: the Johnsons Roto-2 and the Jobo. The Roto-2 takes up to 6ft., with 7 oz. of solution. The Jobo takes two 5ft. strips—one above the other—with 9 oz. of solution. Both tanks have transparent ends on the spirals, making re-exposure easy during processing. Both have water-tight caps, so that excellent agitation can be produced by inverting the tanks every half minute or so.

To load either tank, it is essential that the

film should be prepared properly. The method used by the writer is this: the five- or six-foot length of film is wound—in total darkness, of course—into a small roll, about one inch overall, and held with an elastic band. This roll is put in a light-tight box (such as the canister in which the spool is supplied) and left in a dark but not-too-cold place for about an hour. It is then ready for loading, and the *inner* end of the roll should be fed first into the spiral. That is, the film is in a more or less clock-spring state, and it flows freely into the groove. Any unevenness or kink at the start of the film must be smoothed or cut off, or it will cause enough friction to make loading of the full length quite impossible.

With the Jobo tank, a point to watch is that when the drain plug is unscrewed after first development, the room should not be brightly lit—and the bottom of the tank should not be turned up to the light—or fogging of the wrong kind may occur.

For colour processing, six solutions are required altogether. Two of these are the developers, which are best made up shortly before use but can be kept unused for a day or two. They can also be re-used within a few hours of first use. The bleach, fixer and stabiliser are all working solutions, with good keeping properties. The last is the stop-bath, and it is most conveniently made up from concentrated acid which is added to water to make a fresh batch after each developer.

That is, two beakers are needed to hold the developers, three bottles each holding the quantity needed for the tank for the other baths,

Formulae for Processing Gevacolor R5 Cine Film (Unofficial).

FIRST DEVELOPER

Metal	.. .. .	0.3 gramme
Sodium sulphite anhydrous	.. .. .	5 grammes
Hydroquinone	.. .. .	0.9 gramme
Sodium carbonate anhydrous	.. .. .	15 grammes
or Crystalline	.. .. .	40 grammes
Potassium bromide 20 per cent. solution	.. .. .	5 cc.
Caustic soda 10 per cent. solution	.. .. .	5 cc.
Pot. thiocyanate 5 per cent. solution	.. .. .	5 cc.
Potassium iodide 0.1 per cent. solution	.. .. .	5 cc.
Water to	.. .. .	250 cc.

STOP BATHS

Acetic acid glacial 50 per cent.	.. .. .	5 cc.
Water to	.. .. .	250 cc.

COLOUR DEVELOPER

A.—Sodium sulphite anhydrous	.. .. .	0.5 gramme
“Droxychrome” (May & Baker)	.. .. .	0.5 gramme
Water to	.. .. .	50 cc.
B.—Sodium carbonate anhydrous	.. .. .	20 grammes
or Crystalline	.. .. .	50 grammes
Water to	.. .. .	200 cc.

Mix A and B to make working solution.

BLEACH HARDENER

Sodium acetate crystalline	.. .. .	7.5 grammes
Potassium alum	.. .. .	7.5 grammes
Borax	.. .. .	2.5 grammes
Potassium ferricyanide	.. .. .	7.5 grammes
Potassium bromide	.. .. .	4 grammes
Water to	.. .. .	250 cc.

FIXER

Borax	.. .. .	2.5 grammes
“Hypo” crystalline	.. .. .	50 grammes
Water to	.. .. .	250 cc.

STABILISER

Formalin (40 per cent. Formaldehyde)	.. .. .	15 cc.
Water to	.. .. .	250 cc.

Steps in Processing Gevacolor R5 Cine Film (Unofficial)

(1) First Development	11 minutes at 68 deg. $\pm \frac{1}{2}$ deg.
(2) Stop Bath	3 minutes at 63–68 deg.
(3) Wash	7 minutes at 60–68 deg.
(4) Re-Exposure	2–3 minutes (see text)
(5) Colour Development	11 minutes at 68 deg. $\pm \frac{1}{2}$ deg.
(6) Stop Bath (fresh)	3 minutes at 63–68 deg.
(7) Wash	7 minutes at 60–68 deg.
(8) Bleach-Harden	5 minutes at 63–68 deg.
(9) Rinse	1 minute
(10) Fixation	3 minutes at 63–68 deg.
(11) Wash	10 minutes at 60–68 deg.
(12) Stabilisation	3 minutes at 63–68 deg.

another beaker and a small bottle of acetic acid for the stop baths. For the two tanks mentioned, 250 cc. (approximately 9 oz.) is a suitable quantity of working solutions, and the formulae are quoted for this volume. For larger quantities—as with drum development—this quarter-litre amount can be readily multiplied as required.

In making up the developers, the alkali (carbonate and caustic soda) should be dissolved separately. For crystalline carbonate, use hot water. In making up bleach-hardener and fixer, the chemicals must be dissolved in hot water—and each must be dissolved completely before the next is added.

Maintaining the temperature is important with both developments. With small spiral tanks, the easiest method is to stand the tank and the beakers containing the developers in a large dish containing water at the specified temperature—68 deg. F.

Re-exposure is most conveniently carried out by putting the spiral in a white bowl filled with cold water (not over 65 deg.) which is stood under a No. 1 photoflood lamp. With a single strip of film, one minute is enough for each end of the spiral upward in turn. With a double-decker, each end needs about a minute and a half. All the time the re-exposure is being given, the bowl should be rocked gently so that the light reaches all parts of the film. With a drum, the photoflood should be moved back and forth while the drum revolves, and two minutes at a distance of about one foot is ample.

Although the lid can be taken off the spiral tank—leaving the film open to light—when the first washing is complete, some may prefer to replace the cap and continue inversion agitation for all the active baths. For washing, running water is helpful, but a complete change of water every minute serves adequately. If running water is used, the tank should also be emptied completely at least twice during each wash.

After washing and stabilising, a short length of film may be wiped with a viscose sponge and hung up to dry, held with stainless steel clips. An alternative to wiping, more suitable for long films, is to add wetting-agent to the stabilising bath—say 0.5 ccs. per 250 ccs. Double-eight film may be split with the help of the device described on the following page.

(Continued on page 844)

If you are doing your own colour (or monochrome) processing and use Double-Eight, you'll need to score the film. With this gadget, devised by C. Leslie Thomson, it's a simple job.

A Film Slitter for Double-8

Costs only a few pence. No precision needed in construction.

DOUBLE-EIGHT film is normally processed as 16mm., then slit down the middle and spliced to give the full length of 8mm. With one make of monochrome stock—intended for processing at home—the film is "pre-scored": it has a tiny groove along the centre, and when the developed film is folded firmly it splits lengthwise. Practically all other makes and types are unscored: except for the extra perforations they are exactly the same as 16mm. stock. This makes it easier and safer to run them through complicated processing machines without risk of the film splitting itself prematurely.

When the amateur wishes to process one of these films himself, he is faced with the problem of dividing it neatly down the middle. Proper slitting machines can be obtained, but they cost something like £25 when made to really good engineering standards. Scoring or cutting with a scriber or knife and straight-edge is uncertain and laborious. The little gadget to be described does the job neatly, with complete uniformity. The materials cost only pennies, and although the finished device produces a precisely located cut, there is no precision—in the engineering sense—in its construction; only simple hand tools are required.

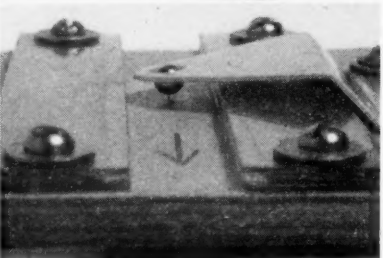
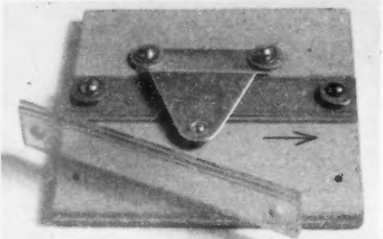
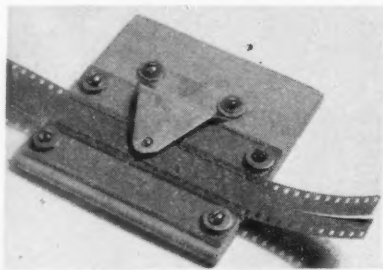
The base is a 3in. square of plywood $\frac{1}{2}$ in. thick, cut with a fine saw and sandpapered so that there are no sharp edges. Upon this are attached two guides for the film and a spring arm with a steel ball: projecting up through the board is the point of a thin gramophone needle (an old-fashioned "soft tone"). The guides are each made up of three pieces of acetate sheet (otherwise known as "safety celluloid" or "celastoid"), two of heavy gauge (forty thou) and the centre layer of light gauge (twenty thou). There is nothing critical about the thicknesses, but those mentioned are particularly suitable.

All the strips are 3in. long, the two heavier ones being 0.6in. wide and the single thin one 0.5in. The handiest tool for cutting the strips is a print-trimmer, but a straight-edge and heavy darning needle will serve well enough to score deeply. Bending the sheet sharply along the score *should* make it snap clearly. The cut edges are then smoothed with very fine sandpaper, making sure that the finished edge has no projections. At each end of each strip, the corners are rounded off and smoothed.

One thin strip is then sandwiched between two heavy strips, so that the long edges of all three lie in line on one side. This leaves a groove 0.1in. deep at the other side. Gripping the sandwich with a couple of "bulldog" paper-clips, and making sure that the three pieces are properly aligned, three dabs of film cement are soaked into them—one at each end and one at the middle. To make this easier, each clip is relaxed in turn, so that the three layers separate slightly—but without altering

their position. One drop of cement spreads over quite a large area, and the clips need be left on for only a minute or so for the cement to dry out. When the two guides have been made, they are drilled at each end with a hole rather larger than the shank of the wood-screw which is to pass through it. (Quarter-inch long, roundhead.) The significance of this will become obvious later.

Next, a scrap of unin, springy metal—brass or duralumin—is cut to a triangular shape as seen in the photographs—each side approximately $1\frac{1}{2}$ in. In one apex a hole is drilled a size smaller than $\frac{1}{16}$ in. ($\frac{3}{32}$ or $\frac{1}{8}$ as available), then cautiously enlarged with a file-tang or the point of a scissor-blade until a $\frac{1}{16}$ in. steel ball (any cycle shop) sits well into the hole. In each of the other two points a hole is drilled—again rather larger than the screw to be used. The metal edges are smoothed with fine emery cloth or sandpaper.



Top right: Fig. 1. "Score-board" for grooving double-eight film after processing. The film is pulled through to the right, and the small steel ball presses it against a sharp point underneath. When the film is folded it splits apart.

Centre: Fig. 2. Partly assembled, one guide—made of three layers of acetate sheet—rests on the base-board, groove upward. Wood-screws with broad washers permit exact setting of the guides.

Bottom: Fig. 3. The point of it all. The tip of a gramophone needle—pushed up through the base-board—presses against the steel ball.

Assembly consists of attaching one guide near and parallel to one edge of the wood block, taking care that each screw passes through the centre of the hole. Under each screw a fairly broad washer helps to give a secure grip without risk of distorting the guide. Next, a piece of scrap film is inserted in the guide, and the other guide slipped on opposite. Once again, the fixing-screws are put centrally in the oversize holes.

Opposite a mark on the measured centre on the film, a point is marked on the wooden base half-

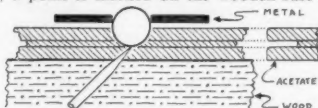


Fig. 4. Diagrammatic sketch to show relationship of parts. The black strip represents the spring arm, and in the background are the three layers of acetate forming the guide—shown in part-section at the right. The wooden base is pierced by the needle which "trails" at an angle of about 45 deg. (Three times actual size.)

way along the space between the guides. Now comes a fairly tricky bit: holding the gramophone needle firmly in a pair of pliers, it is driven into the board from the top at about 45 deg., until it emerges below. The needle is then pulled out with the pliers, re-inserted from the underside, feeding it up through the tiny hole just made, until its point protrudes as high as the thickness of the heavier gauge of the acetate sheet, and pointing in the direction in which the film will be drawn through the device (see Fig. 4). The needle is held quite firmly, and the excess length protruding below can be snapped off with a quick, light hammer tap.

The last part to be fitted is the spring-metal arm with the ball-bearing. This is put in place so that the ball sits right on the tip of the needle, and is fastened with two screws centrally in their holes.

Now comes the matter of final adjustment, upon which the success and precision of the device depends. For this one needs several feet of scrap 16mm. or double-8 film. When the first piece—several inches—is drawn through emulsion side uppermost, it should be scored quite lightly, but enough so that when the film is folded flat—emulsion to emulsion—it snaps cleanly in two. If the score is too deep, it will have ragged edges and produce gritty particles of film. If too slight, the film will not split cleanly. The springy metal must be set to give the right pressure on the ball.

It is most unlikely that the two split halves will be found to match exactly. One will be wider. This is where the oversize holes in the guides come in. Putting a piece of scrap film in them, the two screws holding the guide on the "narrow" side are loosened, the guide shifted away by half the amount by which the two parts differ in width, then screwed down firmly. The other guide is then loosened, moved up to make close contact with the film and re-clamped with its screws. Finding the exact setting may take a little time, but is worth the effort. It is also important to make sure that the guides are in contact with the film edge along their whole length—not pinching it at one end and letting it move sideways at the other.

When properly set, the scorer is used by feeding the film in from the left, then pulling it out steadily and as straight as possible to the right. Slight deviations will not upset the accuracy of the cut, but a very twisted pull can make the film curve in the guides. For ease in handling, the scorer can be clamped to the work-bench, the film being fed off a spool and dropped into a basket. It is better to score the whole length before folding to split.

Colour Filming Q and A

By K. A. S. POPLÉ

Winter Afternoon Stroll . . .

It is a bright, cold, sunlit winter's day, and you are filming the family's Sunday afternoon stroll. Your little daughter, wearing a rust-coloured coat, stops to pat a chestnut mare. What filter do you need?

The sun is very low in the sky, and it is mainly the reddish part of the sunlight which is getting through. The red of the girl's coat and the brown of the horse will be heavily accentuated, and we should use the pale blue Wratten 82A here.

. . . Family in Distant Scene

It is the same stroll, but your family are now well ahead, and you are filming a back view of them in L.S. against a distant scene. Would you need to change the filter?

Preferably yes, because in spite of the red quality of the actual sunlight, distant views in winter tend to be hazy. Haze on colour films comes out blue; add the intense blue of the sky, and the chances are that blue will dominate the screen at the expense of red. Change the filter to the Wratten 1A.

Night Scenes

You are the cameraman for your club's latest production, and, hesitantly, the author wonders whether a night scene in colour is possible. You promptly stun everyone by calmly saying, "But simple! I shall merely . . ." Could you finish the sentence?

There is some very useful information on this and on other effects in colour in the latest Cinefacts booklet No. 15, "Filming in Colour." The answer is to use a deeply coloured compensating filter. Kodak, for example, in addition to the Wratten filters, make a set of some 36 compensating filters, known by the code CC. The two filters of most help for a night scene will be the blue or green, so we look for the CC(B) and CC(G) range. As the scene has to be darkened to a "midnight" blue or green, we need the deepest in the range (in each colour, there are six graduations from 05, 10, 20, 30, 40 to 50). So we use a CC50B or CC50G filter, shoot in bright sunlight with the normal exposure for the sunlight, and enjoy the gasp from the club!

Night Lights

What is the correct aperture for night shots of (a) the lights on the Christmas tree, (b) bonfire scenes, (c) the lights of Piccadilly?

There have been pages written about these, but, in spite of all, there is only one piece of worthwhile advice: open up your lens to the limit, slow your camera speed if possible and have a go! It is surprising what detail the film will record in such circumstances.

If you cannot slow your speed, and you are limited to a f/2.5 lens, try filming these at dusk on a clear evening when the sky is still blue enough to give a faint background light. In this case, daylight stock is preferable.

Filming Shop Windows

You have been filming the Christmas decorations in shop windows (f1.9 at 8 f.p.s.) with complete success

except in one case in which the window came out a peculiar green, rather suggesting a dimly-lit fish tank in an aquarium. What went wrong?

The window was probably lit by some form of vapour strip-lighting. Lighting of this type has a quite different spectrum from "normal" lighting, and can produce the most unpredictable results. Make sure any windows filmed are lit by "ordinary" lighting. The small, internally-silvered television-tube-shaped spotlights used in the windows of many big stores give an excellent light.

Filming on Cloudy Days

How do you reconcile the fact that cloudy, overcast days are not recommended for colour filming because of their cold, blue effect, whereas slightly clouded bright days are often quoted as ideal because of their soft light?

It all depends on the degree of cloudiness. As a rough and ready guide, look for shadows. If you can still see faint shadows, there is no need for a filter. But if there are no perceptible shadows, try using the Wratten 1A, for the light will be blue.

Snow Scenes

Snow has fallen, and you are out to catch the scene. Any points to bear in mind?

If the standard aperture for full sunlight is f/8, then it is dangerous to stop down below f/11 for snow scenes, in spite of what the meter says. Even f/11, which will catch the glitter of sunlit snow, will miserably under-expose faces, so it is best kept for distant views.

In snowballing scenes, f/8 in full sunlight should not be exceeded—the faces are important, and the snow must be left to take care of itself. Snow scenes generally profit from a Wratten 1A. Not only are the winter shadows blue, but if there is no sunlight, the winter sky will tend to blue the scene.

From Long Shot to Close-up

You are filming the wedding guests arriving at the church. They come up towards you along a long path, against the light. Relying on the depth-of-focus of a wide-angle lens, you let them come from L.S. into C.U. and so past the camera. The weather is sunny, with shadows across the path from trees. What will the screen result be?

If you have exposed correctly, you will be delighted with the general sparkle of the scene in L.S., but perhaps horrified to see the guests' faces blush red as they come up towards the camera in C.U. under the tree shadows. This reddening of faces has nothing to do with the light, but is simply under-exposure.

The first reaction may well be: "I should have opened up a stop or so." But in that case, the L.S. scene would have lost its sparkle. It seldom pays to over-expose distant scenes, and back-lit scenes over 30 feet or so distance come out best if we expose them as though they were normal, front-lit.

There are two possible ways out of the difficulty. One is to have an assistant open up the lens as the guests draw near. The other, more simple, solution is to set up a reflector (a cine screen is ideal) alongside the path to reflect light into the guests' faces at the crucial moment. Reflectors are an enormous help in colour filming, and not generally used enough. Even a newspaper suitably placed will lighten up undesirable shadows.

Back-lit Close-ups

You are filming in L.S. a large crowd of important but strongly back-lit personages. You then switch to a telephoto lens to pick out two or three in C.U. Do you keep the same exposure?

A trick question! No, you should open up half a stop at least, for precisely the reasons given in

"From Long Shot to Close-up." Back-lit close-ups are most attractive, and in the Cinefacts No. 15 already referred to, Frank Harris gives a detailed procedure for making sure they are properly exposed.

The difficulty is that in a back-lit portrait there will be a difference between the sunlight and the face-shadow with which colour film cannot cope. As a general rule, colour film cannot cope with brightness or darkness beyond one stop either side of correct exposure.

So our first task is to find out what the exact lighting on each is. Frank Harris recommends the Duplex exposure method, by which two readings are taken with a Weston Invercone, one reading to the sun, the other at the subject pointing to the camera. In the Duplex method, the average of the two readings is taken as correct exposure, unless—as is the case here—this average reading is separated by more than a stop from the highest reading or the lowest.

Here is the actual example (Frank Harris is evidently using a Weston "still" meter): "Here is a practical instance of a portrait study using the sun as a backlight. Weston meter used for incident light reading: Sun, 200 (f/8)—Fill in light (i.e., light on face), 25 (f/2.8).

"This gives a lighting contrast of 8 to 1 (the sunlight is eight times brighter than the face), which, taking a midway reading of 75 (f/4.8), would burn out the highlights and render the shadow area too dark. Using a 20in. by 16in. white card as reflector, 30in. from the subject's face we get: Sun, 200 (f/8)—Fill in light, 75 (f/4.8). We now have a lighting contrast slightly less than 3 to 1, and taking the midway reading of about 125 (f/6.3), we may expect a sparkling, well-balanced result."

Fades

Being the fortunate possessor of suitable equipment, you have the choice of making a fade by (i) shutter, (ii) iris, (iii) dye. Which is the best method?

There is very little to choose between them, for none is perfect. Iris fades (you need at least four stops to spare) have a slight pull over shutter fades in that the speed of any action on which you fade out is not affected. Shutter fades can make certain actions go jerky on the screen. But both suffer from the defect that they progressively under-expose a scene, and since the last colour of the sunlight spectrum to disappear is red, faces usually blush a bright orange before they are eclipsed. So keep faces out of such fades.

Dye fades are better, but need to be done with care. Suitable dyes for fades are rare, and although they work effectively with black and white film, may produce a greenish or bluish tinge on colour film. A detailed procedure for dye fades is given in Cinefacts No. 15, referred to above.

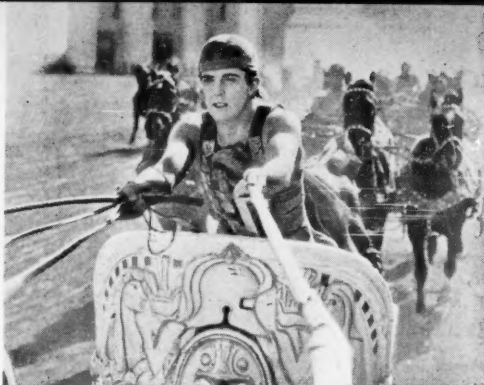
Dissolves are effectively done using the iris. A useful tip when winding back after the fade-out is not to wind right back but only about three-quarters of the way back to the beginning of the fade-out. Beginning the fade-in at this point gives a smoother dissolve.

Queer Complexions

You have used a telephoto for a C.U. of a beautiful blonde, but to your consternation, the screen results shows her face to be (a) green, (b) bright yellow, (c) brick red. What have you overlooked?

Reflectors! But in this case, natural ones. In (a) the lass is too near a bush, or lying with her face too near the grass. Have her on her feet in the open. In (b) her boy-friend's bright yellow shirt was too close. Part them, at least for the moment of filming. In (c) do remember that brick walls are not the best background at any time!

The cinema is rediscovering the spectacular film, but the home showman has long been able to recapture a vivid past brought alive by remarkable costume pictures which still remain unique and themselves constitute a vital part of film history. KEVIN BROWNLOW traces their triumphant progress in a two-part survey.



Ramon Novarro in one of the most famous scenes of them all: the chariot race from "Ben Hur." In one day 42 cameras shot 53,000ft. of film.

The Fabulous History of the Historical Epic

ENORMOUS, vigorous, unsophisticated and tremendously romantic, the historical epic of the twenties made wonderful entertainment. Films like *Ben Hur*, *Robin Hood*, *The Sea Beast* and *Scaramouche* are now historical events in themselves. They established a *genre* and they helped to establish an era.

For their producers, money was no object. The films must be great, they demanded. They had to be made as well as was humanly possible. They had to be satisfying achievements both artistically and technically. And again and again throughout this fabulous decade, the producers' ideals were fulfilled. For they employed first-rate directors and supported them with technicians who were fascinated by their job—and who knew it thoroughly.

Budgets were drawn up, of course, and they were sometimes tight. But a promising film was seldom allowed to run into financial difficulties. Before *Ben Hur* went into production, for instance, its budget was firmly fixed at \$600,000. But Marcus Loew realised its potential quality and gave orders for financial considerations to be forgotten. "I just want to get things right," he said. "We can achieve nothing with a restricted budget. And this venture is a challenge to our prestige."

The cast and unit travelled to Italy, a colossal reproduction of the Antioch Circus Maximus was constructed and a fleet of Roman triremes was

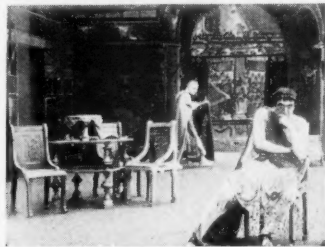
built in the shipyards of Genoa. But labour troubles between Fascists and anti-Fascists developed into rioting and prevented the shooting of the vital chariot race. The Circus was abandoned and the company returned to California, where the huge set was rebuilt, even larger than before. And at last the chariot race was filmed. In one day, forty-two cameras shot 53,000ft. of film while thousands of extras crammed the arena. The film finally cost four million.

One of the most remarkable qualities of these epics was their exceptional accuracy. Although historical events were occasionally distorted, and although the characterisations of heroes and villains followed the somewhat naive popular trend, the costumes, sets and, above all, the atmosphere were meticulously authentic. And the technique was authentic, too. Hardly anything was faked. Back projection was virtually unknown, and directors on these big productions seldom resorted to model work.

Take *Ben Hur* as an example again. Many people who were present at the filming of the chariot race declared that they were never made so deliriously excited by any other sporting event. During the sixth and final lap, Mickey Millerick, a famous Californian stunt horseman who was doubling for the Byzantine charioteer, swerved wildly and collided with another chariot. Two other teams, too close to avoid the wreck, piled up on top of him, raising clouds of dust as they overturned before the horrified crowd. Yet no driver and no animal was hurt.

The race increased in speed and excitement until, in a scripted incident, *Ben Hur* drew level with Messala's chariot, tore off his wheel and thundered forward to win. The huge crowd of extras cheered madly for ten minutes.

Vitagraph's famous *Captain Blood* (2 x 300ft. N) also demonstrates this splendid regard for realism. During the vast naval battle between Captain Blood's *Arabella* and the Spanish fleet, for which special government permission had to be obtained, a Spanish frigate was to be blown up. The property man, told to put 200 lb. of dynamite in the vessel, packed away 5,000 lb. when



Some of the Italian films were tremendous. Here is a scene from an early Italian costume picture.

the dynamite salesman suggested that it might improve the scene. Instead, the result was disastrous. When the detonator was pressed, the full-size, \$5,000 frigate exploded in a fraction of a second and the camera recorded only a blur. And instead of scrapping the scene, or falling back on a special effect, producer Albert Smith ordered a retake. . . .

Costume pictures appealed irresistibly to the cinema-going public. They brought the past dynamically alive. They aroused a new interest in history. They satisfied a basic love for spectacle. And for some people, they were the crystallisation of childhood daydreams.

BORN only a short while after the cinema itself, the historical film began its tumultuous life comparatively modestly. Single reels, crudely depicting famous historical events, were becoming commonplace by the turn of the century. Georges Melies produced the first *Joan of Arc* in 1900, with 20 scenes and 500 lavishly costumed players. Charles Pathe made the first *Quo Vadis?* in 1901.

But not until 1908, with the sensational premiere of the *Assassination of the Duc de Guise* (5 × 60ft.N) did the historical film really become popular. *The Assassination of the Duc de Guise* was not an outstanding film. It was the conventional photographed stage-play, rigidly and prosaically directed, and adorned with the usual painted backcloth and rickety scenery. It was over long, slow moving and rather dull. But it was the first narrative film to feature well-known and highly respected actors, the first film to receive general acclamation from men of letters and of the arts.

Inevitably its success went to the heads of its producers, the Lafitte brothers, the director, Le Bargy and the actors, all of whom were members of the Comedie Francaise. And the French cinema was immediately engulfed by a tidal wave of Comedie Francaise costume pieces. What little action there was in these claustrophobically theatrical melodramas always took place at intolerable length inside the studio. And this was

probably one of their most irritating weaknesses. The Comedie Francaise actors were trained for indoor performances; under no circumstances, they decided, could they give a *tour de force* in the open air, with all its accompanying distractions.

But the tradition was occasionally broken. When the part of Fouquet in *The Man in the Iron Mask* (6 × 30ft.N) was offered to Rene Alexandre of the Comedie Francaise, he gladly accepted—even though several scenes were to be filmed, with conscientious accuracy, in the grounds of the Chateau de Vaux and the Chateau de Vincennes where, in 1661, the events had actually occurred. A short distance away from the Chateau de Vincennes, however, was the Pathe studio. And this, unhappily, was where the majority of the film was photographed.

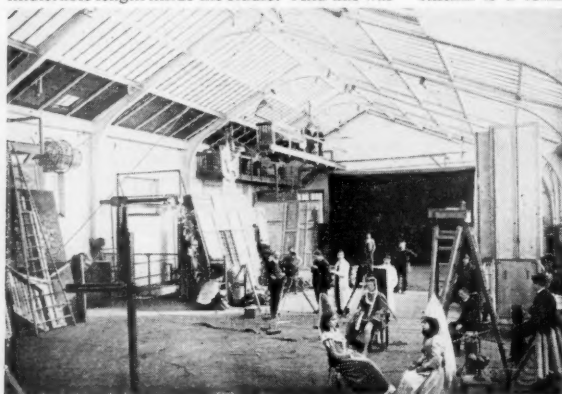
The Comedie Francaise melodramas only became entertaining when they were directed by an enthusiastic pioneer called Henri Andreani. His *Siege of Calais* (5 × 30ft.N) of 1910 opened ponderously with some unconvincing interior scenes (again shot at the Pathe studio), but the film seemed to gain a new dimension when the action left the studio and centred on the actual siege of the city. The battle scenes were fresh and vigorous and were grandly presented. The film was considerably enhanced by the use of Pathecolor.

Andreani's 1912 Biblical epic *Absalon* (8 × 30ft.N) was almost entirely photographed out of doors. Spectacularly mounted, it had some good scenes, although its authentic atmosphere rather went to pieces when Israelite soldiers, fleeing from a battle on a torrid plain, sought shelter in a lush silver birch wood.

Andreani apart, however, French historical films were insufferably bad. Yet the public loved them. Largely because of their unabated enthusiasm, the progress of the French dramatic film became seriously retarded.

English film makers, anxious to cash in on this sudden boom, produced dozens of equally appalling historical films. But the British took even longer than the French to realise that the cinema is a totally different medium from the

theatre, for they lacked the talent and artistry which France was soon to reveal. In spite of the sincere efforts of individual British film-makers, the steady demand by exhibitors for such tedious rubbish as *Flight of King Charles* (1 × 300ft.N) and *A Three Fold Tragedy* (1 × 300ft.N) lulled producers into an apathy from which they took many years to recover. It is almost unbelievable that as late as 1916, Britain was still making films like *The Great*



The Pathe studio during the production of one of their many Comedie Francaise melodramas.

Terror (1 x 300ft.N), a wooden French Revolution melodrama of as low a standard as *The Assassination of the Duc de Guise*—even the appearance of the delightful American actress, Malvina Longfellow, could not redeem it.

Italy meanwhile had achieved a far deeper understanding of the cinema. She, too, was heavily dependent on theatrical conventions, but she had produced some amazing films which were to influence her competitors throughout the world. Italian producers found it easier to make impressive historical films because the Italian historical stage-play was often a colossal affair in itself, and was frequently performed in the open air. But some of their films, from a purely cinematic point of view, were tremendous.

The 1913 version of *Quo Vadis?* stormed through the cinemas of the world and revolutionised film technique. It caused great consternation in France. It led the Americans to counter with *The Birth of a Nation*. And it became a legend overnight. One of the most charming stories which circulated after its triumphant run in London described how a small boy turned to his mother during one of the big scenes and said with great concern: "Oh, look! That poor lion over there hasn't got a Christian."

Cabiria, another Italian masterpiece which was released in England at the same time as *Birth of a Nation*, caused a further sensation. Said the film critic of the *Bystander* in 1915: "Picture plays like *Quo Vadis?*, records like that of Capt. Scott's expedition to the South Pole, of Cherry Kearton's travels, of Paul Rainey's African hunt have done a good deal to break down the prejudice of the superior against 'the pictures.' And there are two films being shown in London at the present time which may well level it once and for all: *Cabiria* and *Birth of a Nation*. I confidently forecast a new era in cinematography." His forecast was quickly proved correct.

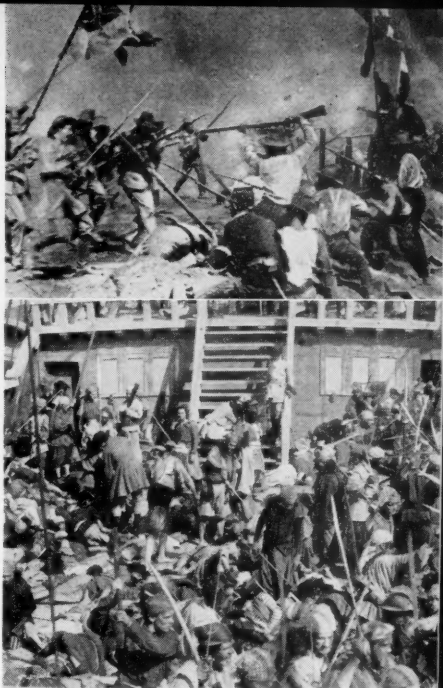
By 1915 the gulf between the cinema and the theatre had widened enormously. Every new film helped to increase the gap. The Italian epics had acted as the spur; now the cinema was producing its own talent, creating its own standards. It had become an art in its own right.

AND now came a period of curious contrasts. While England was still assured of a ready market for her stuffy, lifeless melodramas, certain English directors were unconsciously establishing a new type of costume picture which, although it was to survive for little more than a decade, was to remain unique in film history.

The elements of spectacle and glamour, which had made the Italian and American epics so universally celebrated, were missing from these British films, for their power lay in their modesty and in their quiet reserve. They were simple stories—a rural romance of the 18th century, an adaptation of Dickens or Hardy, a romantic tale of highwaymen or smugglers.

But each film was photographed in the heart of the English countryside, in villages and hamlets whose appearance and way of life had not

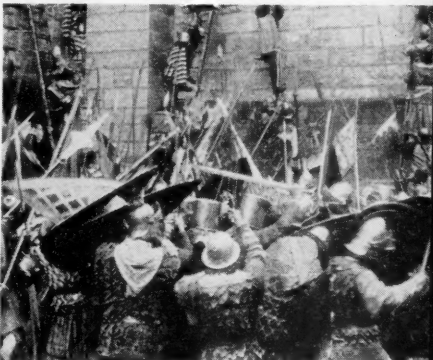
(Continued on page 844)



Top: spectacle to rival the Italian epics: a scene from Griffith's "Birth of a Nation," which had a cast of 18,000.

Centre: from "Captain Blood": boarders from Captain Blood's ship, the *Arabella*, storm the Spanish flagship. Special government permission had to be obtained for staging the vast naval battle. No half measures were countenanced. One full size frigate blew up too quickly for the camera to record it, but rather than make do with a special effect, the director ordered a retake.

Bottom: in this remarkably convincing battle scene from "The Siege of Paris," hundreds of extras were used, all in full 14th century military gear. (Enlargement from Pathecolor frame sent by a reader who projected the film at the White City 1910.)





"... the captain up in front ... competently cursing the weather ... a black-bearded type—very photogenic." There was sufficient light, in dull, rainy weather, to film on FP3 at f/4, utilising light from cockpit windows.

Shot No.	Scene and action	Commentary
39	M.S. Passengers disembarking from aircraft.	
40	M.S. Monsieur Bloc approaching on auto-cycle—engine nacelle and plane propeller in foreground. Cutaway M.C.U. Flight Engineer starting routine inspection.	At Nice Airport the company's representative, Monsieur Bloc, meets us on his auto-cycle, and while the crew engage in the customary routine inspection of our machine, we go off with him to the airport waiting-room for some needed refreshment.
42	M.C.U. Monsieur Bloc greeting passengers, and all move off, etc.	

At this stage in the production of *Airway to Africa* the burden of a scriptful of non-existent scenes became oppressive beyond all bearing, and I recklessly tossed it into the handiest French equivalent for a dustbin. Then I urgently be-took myself in the wake of the other passengers who, far from being an M.S. disembarking from the aircraft, were already an ultra-long L.S. hot-footing it in the general direction of the nearest drink.

The "we" of the commentary column did not necessarily include the director or photographer, both of whom were—if I may say so—me. But if anyone was much in need of refreshment at that juncture it was them—that is, me again. This sort of thing had been going on ever since dawn that morning, and I'd had it.

Monsieur Bloc might conceivably be approaching some place else in France on his autocycle at that moment, but not Nice Airport. The flight engineer was several laps ahead of the passengers, now a disorganised rabble in the far distance. And the plane itself—squatting somnolently on the tarmac—presented only an excessively still picture of still life. Visibility ten-tenths: movement zero.

I felt no more than modified regret at the demise of the script—modified because my copy (everyone in the airline had one—from the commissionaire down to the managing director) was especially beautiful. All eighteen sheets were printed on a species of expensive-looking linen.

STUART GORE tells

How to be Happy Though Scriptless

This is the first of a series of three vivid articles, each of them packed with bright ideas and helpful information, on the making of a film of a flight to Africa without benefit of script.

Actually, I had clung to it more for show than anything else, until now.

Not that I had anything against it, other than the faintly cloying sentiment of a present tense, first person commentary. Or, for that matter, against its writer. Most scriptwriters, heckled by the sponsors, regard the photographer as a necessary but somewhat low species of animal life who is able, by despicable feats of mechanical legerdemain beneath the scriptwriter's notice, to convert totally unfilmable scenes into action of rare and telling vitality.

But in this case the gentleman responsible had come up with a quite lucid continuity and admirably terse pre-cutting of sequences which in themselves were not impossible of interpretation through the lens—albeit not specially imaginative. He had handed it over to the airline concerned, received his fee, and departed gratified.

They in turn handed it on to me, with heartening confidence and the exhortation, "the best o' luck, chum"—or the executive's equivalent thereof—and promptly washed their hands of it. This was their first sponsored film, and they apparently rated me and my H.16 (with w.a., lin. and 2in. lenses) as peers to the Arrireflexes, Cine Specials, directors, cameramen and all the other odd bods who customarily engage in such enterprises on behalf of big business.

It happened to be my first sponsored film, also (not a free holiday ... real money). To date I had been a freelance amateur. I was in blissful ignorance of the pitfalls to which such things are heir. After all, I had a script, which everyone from the B.F.I. onwards insists is the main desideratum of a film. What more could you want, except confidence and a camera? I added a light tripod to this equipment and went blithely off, convinced there was nothing to it.

Nor was there, at first. The opening sequence of this story of a passenger flight from London to Africa—showing preliminaries of chartering the aircraft ... arrival of client at office ... signing contracts, etc.—had only two snags.

First, the script called for a shot of the client's arrival at the office by luxury limousine. But I found that said office, although in a most dignified street, was distinguished by a particularly tatty-looking front doorway. The company vetoed the door but wanted the picture. So we had to drive around town until we found a suitably imposing entrance to a block of Govern-

ment buildings, and while I kept the camera rolling, had the client (an unusually photogenic clerk type) leap out, stride purposefully in at the door, make a brisk circuit of the marble halls, and depart again—somewhat to the mystification of the commissionaire on duty.

The other difficulty was that I was working entirely single-handed and had but two photo-floods in reflectors with which to film the office interiors. So for the mid-shots I used daylight (working towards the windows on a dull day), with one photo-flood used as a bounce light from the wall to illuminate the shadow side and the other for high-lighting. Exposures on HP3 stock were in the region of f/4 at sound speed.

For the close-ups the reverse applied. The lamps became the main lighting source, and the windows balanced the shadows. The lights were kept fairly high (top-lighting is important) by having an office typist stand on a chair and hold them, her arm acting as an easily adjustable, any-angle bracket that was much easier to handle than wobbly telescopic legs. Also, the lights were kept at least at forty-five degrees to the subject, if not a sharper angle—thus making use of shadows to give roundness and a greater over-all punch to the entire scene.

So far so good. Office sequence of *Airway to Africa* concluded. All shot according to Hoyle, exposure meter, script, tripod and what have you. It was after this that the script came unstuck—as soon as actual shooting of the journey commenced.

The first bit called for a sequence of the airline bus arriving, passengers alighting therefrom in pleasant anticipation of shortly soaring off into the wild blue yonder, regaling themselves at the buffet, passing through Customs, and eventually embarking for flight—with appropriate cuts of smiling hostesses, up-thumbing pilots, etc.

And kindly bear in mind that—according to the simple economics of the company—I was one of the same bunch, going on the same flight, and snatching my pictures on a catch-as-catch-can basis while going through all the same formalities as the other passengers. Except, of course, the eating. Photographers never eat—they have to be working while everyone else is guzzling. Some form of instruction in Yoga should be a *sine qua non* of the Polytechnic photographic curriculum. I would have to take my sustenance like my pictures—on the wing.

However, at 4 a.m. of a leaden August morning I was collected by company car and rushed through the sleeping Bucks countryside at sixty-five miles an hour, the driver ghoulishly regaling me *en route* with endless horror stories of aircraft crashes he had witnessed in his long, and doubtless, cautious service.

We arrived at the airport on the heels of the heaviest downpour seen that summer—which is saying something. The company flag, which I had intended to use as a handy establishing shot, was wrapped in a sodden bundle about the mast; and the bus, when it arrived, crept in under the curtain of rain like a submarine suspiciously emerging from an involuntary crash dive. However, I hopefully made one shot—keeping dead against

such light as there was in order to achieve the maximum sparkle from the glistening metal bonnet, and so enliven the ghastly scene a bit.

After that I'd had my chips. The passengers did not disembark. They scuttled out one by one like terrified mice (I got one brief shot of a pair of shapely legs under a red umbrella), and huddled into unoccupied corners of the waiting-room to regard each other with the air of those who, in a lift, have just sighted the *Beware Pickpockets* warning.

About half of them were Colonial Civil Servants of dignified mien, whose sole topic of conversation developed later as the East African equivalent for Poona. They eyed me glassily and muttered indistinguishably through stiff upper lips when, without waiting to be introduced, I suggested that a bit of co-operation in picture-making would be highly esteemed. Unlike the majority of bystanders, who will stick their noses into any and every picture that's going, these reacted to the idea with quite exceptional coldness.

But shot numbers twenty-two to twenty-five of the script indicated: *passengers enjoying amenities of airport buffet*. Okay! Under a barrage of hostile eyes, I climbed up on the buffet counter. There was no wall plug for the photo-floods, but I had an ordinary bayonet plug in my pocket, plus a bit of fuse-wire, just in case. I reached up and made to remove a lamp from the hanging fixture and promptly unearthed another snag. Of all lighting installations in England, this was the only one I had ever come across that was progressive enough to be equipped with the U.S. screw-bulb fitting!



Two photo-floods sufficed to film the office scenes.

A wide-angle lens was used to strengthen foreground. The window and one photo-flood supplied backlighting and high-lighting respectively. The other photo-flood used as bounce light from wall lightened the shadows.



Seizing the fleeting moment.

A quick hand-held shot at rain-washed window gave human interest and an opportunity to change the scene to aircraft being prepared for flight. It is always worth chancing a few feet on these odd shots. You can never have enough of them. When continuity proves sticky, they may be invaluable. Learn to judge distances and estimate exposures without a meter for different types of unexpected shots. You must be ready to shoot first!



And time was pressing. People were already huddling about Customs. *Shots twenty-two to twenty-five: passengers enjoying amenities...* Ha! Even on HP3 there was no chance of filming by available light indoors on such a gloomy morning as this.

But wait! A doting mother was holding her offspring up to the rain-smear window, with fond injunctions to "look at the nice aeroplane, darling. That's the one *we're* going in." Whereat the infant looked anything but overjoyed. But it was a picture. In this light the window could be included without fear of halation, and the faces pressed against it would be lighted nicely.

I hastened over, twiddling the wide-angle into position and setting the scale at three feet as I went. (This pre-focusing is an old press photographer's dodge. The art of it lies in memorising what two or three fixed distances look like. A one-, two- and a three-yard shot is the usual repertoire.) A bit before three feet I stopped short and let fly with a hand-held shot before they could tumble to me. Only about three seconds—by that time the child was looking for the source of the noise—but it was enough. And depth of focus with the wide-angle would take care of any slight discrepancy in focusing.

With the child in, so to speak, the bag, I made a derogatory red cross against shots twenty-two to twenty-five on the beautiful script and hared off into Customs, clutching lamps, tripod, camera and personal baggage to me with all hands and feet, and suicidally bent on plugging bare ends of flex into any available hole that looked as if it had electricity in it.

Actually there was no need. Customs positively bristled with wall plugs which would fit, but when I made for them it was only to be suavely informed that filming in Her Majesties Customs was strictly *verboten*! But, I told them, the company P.R.O. had made all necessary arrangements! *Never heard of him*, they said. But *I have to*, I said. If I don't get these linking shots, I said, somebody is going to have somebody's guts for a necktie, I said, and you can lay to that.

Make arrangements to film another departure when you return from Africa, they suggested coldly. But they won't be the same people! Look! I can take these shots in... oh, what's the use! Already Customs was casting suggestive glances at the airport police.

The driver who had brought me down was standing by, regarding the proceedings with ill-concealed amusement. I gave him the useless lamps to take home for me, and grabbing my bag—fortunately cleared by Customs before the brawling began—gloomily jog-trotted out through the puddles to the waiting plane to photograph the baggage being loaded, once again shooting against the light to get the glisten of rain on the fuselage. After all, I reflected, rain has its uses on a dull day, and the farmers need it, anyhow.

After a shot or two of the passengers taking their last look at Blighty from the depths of their overcoat collars, I followed them aboard and sinking spongy into my own rear seat as the

plane taxied out, gave myself over to a review of the situation.

The script was foredoomed to failure—I could feel it in my bones. And so was the commentary. Which was just as well, for it was a pretty corny commentary at that. But as we drove upward through the grey lid of murk that forever prevents England from coming to the boil, a still small voice inside me began to outline a new commentary, based on the miserable few pictures taken to date.

It was a woman's voice. Only a feminine voice could get away with the slightly sticky sentiment involved. (But not, repeat *not*, present tense.) Past tense. I could hear it already... "*It was a wet dreary morning when we arrived at the airport (bus shot) and I must admit that I felt a little depressed and anxious as I followed (legs under umbrella) the other passengers into the warmth and comfort of the waiting-room (have to do something about the flag for that in due course) for this was to be my first flight. But when, through the streaming rain on the windows (infant) we could see the plane being prepared for flight (baggage loading) and noticed what an efficient and matter-of-fact affair it all seemed to be (publicity plug for aviation, that one), I thought that perhaps, etc.*"

At least this would be a change from the conventional forms of aircraft departure—the hand-wavings, the prop-spinnings, the take-offs into heavily-filtered skies. Instead, I mused, there would be the gloom, the rain, the faint atmosphere of apprehension—then suddenly the breakthrough into sunshine, the uplift of spirits...

At that moment the cockpit door swung back and I caught a brief glimpse of the pilot... The girl's voice tuned in again... "*My remaining fears left me when I saw the captain up in front (that's what she'd call it) looking so competent and unperturbed...*" (touch of hero worship for the benefit of the distaff side).

I made my way to the cockpit—being privileged at least to that extent—and there he was, competently and unperturbably cursing the weather at about three shillings a minute over-time rate. A black-bearded piratical type—very photogenic. I filmed him, the navigator, a close-up of their banked instruments, and a buck-and-wing passing shot of the Channel coast, which appeared briefly through a break in the cloud at that moment. Then I retired to change film in readiness for aerial shots.

This was FP3, naturally. Not only to reduce grain—always so noticeable in long shots—but also because the tendency to increased contrast, inherent in the slower emulsion, would be better for the rather flat subject. Flat for two reasons. One was the ever-present blue haze, which could, however, be largely eliminated by use of the orange-yellow filter known to air photographers as a minus-blue, and which increases exposure about four times.

The other, which I trusted would be countered by the more contrasty film, was because I had to film through the Perspex. (The mere suggestion that a small back window might be de-Perspexed

for photography caused such a panic among the heads that I shut up, for the sake of peace and quiet—and also because I'd not been paid yet.) So I just polished the outside of my window at every stop with a bit of metal polish begged from the hostess and hoped for the best.

* * *

In next month's article, Stuart Gore tells how he worked up a fine documentary fervour in the taking of shots in flight. Meanwhile, you can have a further taste of his quality in "Australians, Go Home!" (Robert Hale, 18s.) in which he racily describes how he and his wife toured Britain in an ancient Austin

Seven. This is the series of trips which formed the basis of his film, *Britain Through the Windscreen*, the story of which he has already told in *A.C.W.* The amateur who is contemplating making a film about any part of Britain will find the book an excellent stimulus and source of ideas, for Gore is keenly interested in people and pagentry, the two ingredients which provide meat and flavour for the "Face of..." type of film. "Australians, Go Home!" is an unfailingly amusing, shrewd account of how British manners, customs and places strike the visitor from overseas, and in showing us ourselves with affectionate yet realistic discernment, he provides the film maker with a background to which those on the spot are so often blind.

Films for Club and Home Show

THE 8MM. HOME SHOWMAN, who must sometimes feel rather left out of things, can look forward to Christmas this year! G.B.'s 1958-59 Movie-pak catalogue gives details of more than 200 shorts available on 8mm. and 16mm. for outright purchase or on hire from local dealers. New releases include *Rocket and Roll*, an addition to the popular Abbott and Costello series; a new Hopalong Cassidy Western, *Ghost Canyon Round-Up*; and nine cartoons, including the Woody Woodpecker *Screwball* and six Walt Disney cartoons available in colour—*Tugboat Mickey*, *Pantry Pirate* (Pluto), *Mickey's Parrot*, *First Aiders* (Minnie and Pluto), *Donald's Gold Mine* and *Donald's Snowfight*.

The "Round Britain" series, which offers amateurs valuable tips on travel film making, has been expanded to include *Blenheim Palace* and *The Story of Oxford*; and *The Voyage of the Mayflower II* and *S.O.S. Iceberg*, the story of an Arctic shipwreck, have been added to the "Adventure" series. Apart from the six Disney cartoons, which are available in 8mm. silent only, these new releases may be obtained in 16mm. sound or 8mm. silent versions.

The catalogue also gives details of the new Movie-pakette series, which are shortened versions of the original Movie-paks. More than 70 titles are available on 16mm. and 8mm. silent. Prices are £2 for 16mm., £1 5s. for 8mm. Walt Disney cartoons in Movie-pakette form are available in black and white or colour, at £6 10s. (16mm. colour), £2 10s. (16mm. monochrome), £3 5s. (8mm. colour) and £1 5s. (8mm. monochrome).

25th Anniversary

The new G.B. 16mm. catalogue, briefly mentioned last month, is a special 25th anniversary issue containing the full story of G.B.'s remarkable development since Bruce Woolf opened an office with a few films made by G.B. Instructional in 1933. The Library's first feature was *Sunshine Susie*, with Jack Hulbert and Renate Muller (recently presented at the National Film Theatre). Now, of course, the home showman has literally hundreds of titles to choose from, including many features which have only recently had their commercial showing.

The catalogue—which at 138 pages for 2s. 6d. is one of the best cine bargains available—is attractively presented and so indexed as to make selection simple. There are hints on booking and projection, and services for special groups and organisations are outlined. One service of particular interest to the amateur is offered by the recently introduced Technical Services Division where, as the catalogue puts it, "the amateur film can be transformed into a professional production." Complete facilities for adding commentaries, music and sound effects are available, and a titling service is included. Small wonder that G.B., in introducing the catalogue ("Happy Silver Jubilee to us") boast, "If, in business

today, one has to have a gimmick, then our gimmick is service."

A particularly interesting release from Contemporary is *Peep Show*. It is Ken (Amelia and the Angel) Russell's first film, which he abandoned during editing. Happily, Philip Jenkinson encouraged him to finish it. Again Russell presents his own lunatic world of drolls, comparable only to the equally personal landscape of James Broughton. *Peep Show* opens with graduation day at an academy for bogus beggars, where the sinister boss inspects his students as they parade on crutches against lines of hanging sheets.

The story concerns the abduction by a group of the beggars of a showman and his rescue by a dancing doll. One of the most delightful things about the film—and certainly one of the most encouraging from the amateur's point of view—is Russell's solution of the problem of dialogue. His spoken titles are all scrawled on pavements, walls and fences, completely in keeping with the film's backyard mood. For example, when the doll opens her mouth, we cut to a broken-down wall demanding "What have you done with my father?"

Experimental Film Fund Production

Another recent Contemporary release, *Alone With the Monsters*, is the first film of 18-year-old French-Egyptian actress Nazi Nour. The B.F.I.'s Experimental Film Fund sponsored the production, which is a symbolic study of the cruelty of people to anyone who seems different from themselves. Simple and refreshingly naive, it is just such a film a child might make if it had the facilities. Walter Lassally was responsible for the fine camerawork and for getting Miss Nour's script on to the screen.

Still more good news for 8mm. hirers! *The Eagle*, the celebrated Rudolph Valentino feature, is available on 8mm. from the B.F.I. It runs for 102 minutes. The famous Chaplin comedy, *The Pawnshop* (27 minutes), is also on 8mm. This is regarded by many as one of Chaplin's greatest achievements; the sequence in which he opens up a customer's alarm clock like a surgeon operating on a patient is a classic.

Among the B.F.I.'s new 16mm. releases is a series of television films from the Associated-Rediffusion programmes, *This Week* and *Look in on London*. Several, including *Fan Fever*, *American Tourists* and *Street Cleaners*, were shown in the Captive Cinema season at the National Film Theatre. Other new additions include German films on the *German Army Hospital Service*, *The Invasion of Russia* and *The Rehabilitation of Wounded German Naval Personnel*. An un-subtitled version of *Farrebique* and a series of films on transport in Britain have also been released.

KEY: British Film Institute, 164 Shaftesbury Avenue, London, W.C.2; Contemporary Films, Ltd., 14 Soho Square, London, W.1; G.B. Film Library, Aintree Road, Perivale, Greenford, Middx.

Public Performance

Our contributor writes from eighteen years' experience—ten as a professional showman and the last eight strictly amateur. By F. E. WOODS.

YOUR equipment is set up and correctly positioned. Can we start the show now? Not yet. There are several small items to check. Are all the spares ready to hand? Lamps? Belts? Ready loaded spare fuses? Do you know where the fuse box is? Have you a torch handy? Are all your reels of film in the right order? Tape and records? Spare valves and photocell?

If the answer to all of these questions is yes, then you can inform the house manager that you are ready. House and stage lights on, music from the non-sync., and the doors can be opened. Keep the sound level just above the conversation hum level of the audience. Now that there is a background for conversation, the audience will talk, and they will talk no matter what sort of music you play. If you raise the volume, they will raise their voices, and in next to no time it will sound like a children's matinee. So keep the volume down.

Almost any sort of music will do, but nothing too rhythmic, and above all, *no vocals*. Possibly the best type is popular light orchestral music in the Mantovani or Robert Farnon style, but whatever type your choice runs to, don't mix it. All orchestral, all organ music, all piano solos even, but not a mixture. A small point, perhaps, but an effective one. The last record to be played before the show starts should be chosen to match the mood of the opening film, and should be timed to finish just as the main title reaches the screen.

Time to start. House lights are faded out slowly, taking about five seconds; as they fade, the volume of the record should be gradually increased. A short pause after the house lights are fully out, then start the first projector, check quickly to see that the film is running true, then open up on to the curtains. As soon as the title appears on the curtains, open them.

If your curtains are hand-controlled, the speed of opening should be suited to the mood of the film. If they are motor controlled, they should travel at an average speed, suited to any film. This matter of curtain speed is quite important. Too fast always looks ludicrous, too slow makes the audience think something is wrong.

The curtains open, our titles are now being shown on a screen which is still illuminated by the stage lights. Again, the colour should be chosen, if this is possible, to match the mood of the film; they should not be too bright, and should be faded out as the last title fades out, and at the same speed as the film fade. An exception to this is, of course, when colour films are being shown, when the lights should be faded out as the first title fades in, again at the same speed as the film fade. Your show is now under way.

Now you must watch your equipment like a

hawk. You must listen, not only to the sound for volume and quality, but also to the projector. A machine in good order, taking through film in good condition, makes a certain noise. If anything at all goes wrong, this noise will alter, and this change of projector noise is usually the first sign of trouble. Attention at this stage very often saves considerable film damage.

If your preparations for the show have been thorough, then you will have no worries about the condition of the film *before* it goes through the projector. You will have examined every inch on the rewind bench, remade all suspect joints, removed all torn perforations. You will have noted whether or not the perforations are "pulled," i.e., strained, and so you will know what sort of noise to expect from that film during projection. Any deviation from this noise spells trouble, and you must be on guard.

Most joints make a slight click as they go through the gate. A louder click than usual means that all is not well with that joint, and a small slip of paper should be inserted into the take-up spool at that point to remind you about it during rewinding.

The sound volume should be kept at the proper level. What this level should be depends on several things. The type of film is one factor. A film which is raising laughs will need more volume than a dramatic film. Similarly, a boring film will need more volume because boring films create fidgety audiences. The size of the audience, the number of empty seats, both affect the volume needed. The professional cinema attempts to use a seat with sound absorbing properties similar to that of a person, so that the seat when empty will absorb just as much sound as when it is occupied. The absorption of the occupant cancels out the absorption of the seat.

But your seats are probably of wood, and will absorb very little sound, so the volume required will depend upon the number of seats empty. More people, more volume. Elementary, perhaps, but often overlooked. This is the reason why sound levels decided at rehearsal never seem right on the night. Another factor to take into account is the weather. On a cold wet night your audience will be wearing heavy clothing, with consequent greater sound absorption, and, again, you will need more volume.

Do not make the common mistake, however, of running your sound too loud. The level should be the lowest acceptable, with due regard, particularly with small audiences, to the correct reproduction of the lower frequencies. Over-loud reproduction magnifies both bad acoustics and recording faults. The correct sound level is extremely important, especially with synchronised sound; an audience straining to hear what is being said, and unconsciously thinking "Why

don't they make it louder (or softer)" is aware of equipment operation, however vaguely, and the illusion is destroyed.

As you reach the end of the first reel, the second machine should be ready to come into operation. If the second reel is a different film altogether, then bring up the stage lights during the end title fade-in, and close curtains. Give the audience time, however brief, to recover from one film before showing them another. As soon as the curtains are closed, the second projector can open up, and then you carry on as when the show started. To avoid complete silence between the two items, background music should be supplied from the non-sync. When the second reel is a continuation of the first, make your change-over smooth.

Find out how fast your machines come up to full speed, then lace to the correct leader number. Use the cues provided on the film, or if none are provided, use a certain part of the action as cue marks. *Do not mark the film*; only the projectionist needs the cues, not the audience. Arrange a pair of shutters so that the light from one machine is cut off as the other is opened up. Sound switching should be done simultaneously with the picture change-over. And don't dawdle! A good change-over takes less than one twenty-fourth of a second, and is not in the least difficult.

Breakdowns! The first thing to be said about breakdowns is this: except for the case where there is a complete power failure, *there is no excuse for them*. Yet they do happen, and when they do, it's your job to rectify them speedily and without fuss. The essential thing then is speed—not haste. If the fault is not immediately obvious or easily rectified, transfer the film to the other projector.

Remember the audience! Don't keep them sitting in the dark twiddling their thumbs, while you try to sort out the trouble. If you think you are going to be longer than 45 seconds, close the curtains, put on the stage lights, and play background music if you still have sound available; if you are going to be longer than two minutes,

then house lights also, and have someone make an announcement, *from the screen end, not from the projectors*.

Picture faults are usually easy to deal with, since the nature of the fault almost always shows itself. Sound faults are rather more difficult to diagnose, but should occasion no panic. Systematic testing is the answer. You lose sound on one machine—have you sound on the other? If so, the fault is confined to the first machine. No sound from either machine—have you sound from the non-sync? Yes? Then the fault is common to the projector circuits but not the main amplifier. And so on.

A set testing routine can be developed for each type of equipment, for every type of set-up; such a routine can save valuable time in an emergency. Here is the golden rule: all possible breakdowns should be investigated, and a course of action planned, *before they happen*. Get to know your equipment!

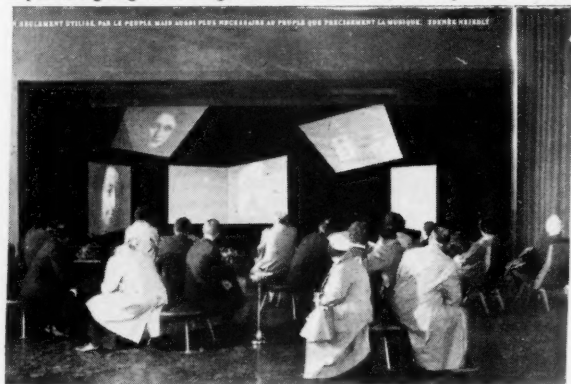
If each machine contains its own amplifier, as is often the case with substandard projectors, it is possible to make emergency running arrangements in the case of amplifier failure on one machine. For instance, the photocells can be paralleled, and the amplifier on the good machine used continuously. If it is at all possible, avoid running the show on one projector. This should be considered a last resort.

As the end of the show approaches, make sure that your arrangements for the Queen trailer are in hand; if you have only a record, see that it is on the turntable, and that the turntable is set for the right speed. Should you use a record in conjunction with a silent trailer, arrange the timing so that record and trailer finish together. Show the Queen trailer with the house lights half on, no stage lights, and time the curtains closing so that they meet just as the trailer finishes. Stage lights should be brought up as the curtains are closing.

But the show is not yet over. After the Queen has been played, the audience have still to leave. While they are moving out, play a record of lively music. If the film just shown has had an outstanding or lively theme, obtain a record of it and use it as a play out.

But showmanship does not end with the end of a show. A later article will deal with after-the-performance techniques.

How about pooling club resources and brains to produce a set-up inspired by the famous Polyscreen presentation which was so popular a feature of the Czech pavilion at the Brussels Fair? Eight screens of varying shape and canted at varying angles (two of them—almost horizontal—are masked by the audience in this picture) were fed by fifteen projectors (cine and still). Details of buildings, paintings and thoroughfares appeared, now simultaneously with, now following, shots of choirs and orchestras, the interplay of imagery and sound creating a new form of visual entertainment.



Novel Features of Automatic Cameras

By SOUND TRACK

FOR many amateurs the fully automatic camera represents the most enticing technical advance to date because they want to be able to get on with film making without having to learn about photography; or else they are interested in specific aspects of the hobby such as scripting, direction, editing and adding sound, not to mention such branches as animation. Others want to exploit photographic possibilities fully and must therefore be able to hand-set everything. Will both types have to accept a compromise based on sales figures? Remember what has happened to professional films! These are almost always elongated into CinemaScope, even though the subject may patently demand the more intimate effect of the 4 : 3 format.

The automatic exposure setting 8mm. cameras have made a great impact in the United States (and the enthusiastic reception for the G.B.-Bell & Howell Autaset 624EE promises similar popularity in the U.K.) because they can be described as "fully automatic," i.e., you aim and press the button, whereas in fact only one feature is automatic. The features that aren't are focus, exposure time and film emulsion speed, dealt with respectively by the fixed focus lens, single taking speed of 16 f.p.s. and suitability only for films of speed 21 deg. BS, which covers the colour films used almost exclusively by the 8mm. amateur.

Incidentally, the photographic aspect is almost the entire hobby for the still photographer, so that it is not surprising that the automatic still camera is decidedly complex and a lot less automatic than the 8mm. movie camera. In the Agfa Automatic 66, which was, I believe, the first automatic exposure setting camera, taking 120 roll film, the electric eye operates the shutter speed setting through a pneumatic device, and a set of resistances corresponding to each aperture number corrects the exposure setting according to the aperture. Louvers in front of the electric eye are pre-set by the emulsion speed dial. Like the film speed, the focus has to be pre-set.

American 8mm. cameras with automatic setting of the lens aperture include the Bell & Howell turret head version of the Autaset, the DeJur Electra, the Keystone KA-3, the Revere

Eye-Matic, and the Wollensak 46 Tru-Automatic, all with three-lens turrets. (These were illustrated in the August A.C.W.) All have standard spool-loading, but Revere also offer a magazine model. The only 16mm. automatic camera at present is the American Bell & Howell.

There is also the Austrian single-lens Eumig Unilectra, which is interesting for several reasons: the well-known Eumig Electric camera body and mechanism are used—only the lens differs. This lens is built into a circular electric-eye, 2in. dia. and eccentrically placed so as not to obstruct the viewfinder. Manual or fully automatic lens iris settings can be selected, the lens being a 13mm. f/1.8. The whole assembly was developed jointly by Eumig and the Elgett Optical Co. of Rochester, N.Y. (See also Supplement in this issue.)

This company also markets, at \$10, a reflex viewer to suit any 8mm. or 16mm. camera lens. It consists of a fitting with 45 deg. mirror, gated-sized opal screen, and viewing magnifier in tube, to clip on the front of the lens when lining-up the camera for shots needing accurate centring: it shows at the eyepiece the field taken in by a standard lens. It is a simple version of the proper between-lens-and-gate reflex viewer which is sorely needed.

Of the semi-automatic movie cameras, i.e., those in which you follow a pointer to hand-set the lens iris in accordance with the photo-cell indication, again mainly confined to 8mm., the Bolex B-8L 20/20 Compumatic is particularly interesting. It, too, retains the traditional shape, utilising the same body and mechanism and incorporating all features, including the variable shutter. (Details in Supplement.)

The advantages of the Bolex system are that it can be used with any combination of films, taking speeds, and lenses, whereas the fully-automatic types are limited to one film type and one taking speed and lenses having attachments. Indeed, the cynic might remark that it leaves you as well off as with an ordinary camera and separate meter, except that both of the latter would not be out of service if only one needed repair or adjustment! But the amateur cinematographer has nothing to lose and a great deal to gain from most of these technological advances.

MY PET GADGET by Sound Track

WELL, not really a gadget, though it does what one expects of most gadgets: enables one to effect a short cut. It's a method of shooting a title in an emergency in a matter of minutes and can be carried out with any camera with a fixed focus lens of standard focal length. All you need is 3-inch white letters, two aluminium conical reflectors with 100 watt pearl lambs, a supplementary bi-convex (or preferably meniscus) lens of focal length 30in., a black card 10in. x 8in. and a black cloth.

Set out the title, preferably with not more than six words, within an area 8 x 8 on the 10 x 8 card. Lay the card on the cloth. Place the reflectors with bulb tips at 12in. from card centre. Set up camera so that the lettering of the title is down in that corner of the viewfinder nearest the camera

lens, and so that the front of the camera lens hood is 30in. from the card centre, then set the aperture at f/2.8 for daylight Kodachrome or Gevacolor. Hold or clip supplementary lens of 30in. focal length in front of camera lens. Shoot!

Keep the lettering reasonably small and neat and don't bother about exact centring—you need only ensure that the lines of letters are neatly parallel to the lower limit of the picture shown in the finder. It is a useful trick, for a quick assurance of no cut-off due to parallax, to place the subject just in sight in the corner of the finder nearest the lens, because the lens will "see" more than the finder in this direction. Corresponding apertures: for Type A Kodachrome f/4, positive stock f/2.3, Super X, f/5.6, Gevaert Micro f/2.8.

THE "COMMITTED" AMATEUR

You Must Get Down to Earth

Object lessons in film by Belgian teenagers

By JACK SMITH



André Delvaux (left) with 18-year-old "star."

I'VE MENTIONED the remarkable work going on in a number of our schools, where children and adolescents are encouraged to have a go at making their own pictures. The results, as more than one critic has pointed out, tend to put the average adult amateur to shame. Recently, I saw a film which shows that the young idea is producing interesting results abroad, as well as here.

At a boys' school in Brussels, André Delvaux (who teaches English) has directed a group of 16 to 18-year-olds in a 20 minute silent film, *Nous Etions Treize*. I don't think that the picture is anything like completely successful. But it is full of object lessons for anyone who has the chance to look at this beautiful 16mm. black and white film-making.

The film reflects the personality, imagination and skill of the master in charge. Delvaux is an out-and-out enthusiast who brings to his film work a remarkable feeling for pictorial composition, an ability to bring off ruthlessly effective cutting and, of course, the essential gift of inspiring young people to exercise and develop their own talents and make their own creative contributions.

In the magazine *Rencontres* he gives a full account of the film's production and of the lengthy preparative work with his pupils which led to the final shooting-script. He invokes the spirit of Eisenstein, and revels in phrases like "the dramatic value of diagonals" (complete with elaborate shooting diagrams which look like junior editions of those pull-out sheets at the end of *The Film Sense*). Two sequences certainly stand up to such analysis.

In one, a youth from a rival group steals a

bicycle, then wrecks it as he tries, feverishly, to pedal away from his pursuers. About 12 quick shots fuse together to give a frightening impression of rapid, inevitable catastrophe. A second, longer sequence, shows us a group of youths strolling through the woods on a day's outing together. Once again, every shot is carefully constructed for composition and for the action it contains—a string of boys, trotting along a straight skyline, seem reflected in a pond 50ft. below them; running figures tumbling down a hillside and creating a scatter of movement between the geometrical lines of stark, leafless trees.

Now, *Nous Etions Treize* is certainly not an amateur masterpiece. It has lovely moments, but the story line is insufficiently clarified. The general idea is there—the gradual acceptance of a newcomer whose arrogance at first angers the established school "gang"—but it's difficult to see how and why individual scenes fit into this framework. And the opening is far too drawn out. It interested me, because my own school film unit is starting a somewhat ambitious Anglo-Belgian production to be shot next year in collaboration with André Delvaux's unit in Brussels—that's why I came to see the picture in the first place. But afterwards I found myself trying to think of any British amateur films which used real locations so convincingly.

There are two main filmic styles. In one, you build up your own world within the boundaries of the film frame, carefully constructing an artificial *milieu* to suit the actions of your protagonists. This is the studio style—the style of *Caligari* and *Metropolis*, of most of *La Ronde* and all of Olivier's *Hamlet*. In the second style, you look at the actual world around you, and you put your frame around the little bits of it which, fitted together in editing, will present the effect of reality which you need. Your characters inhabit a world which you have artfully selected for them. This is the style of *Bicycle Thieves*, of John Ford, of the great new Polish cinema.

The non-professional *must* work in the second style. However clever he may be, however ingenious in faking effects, his studio work can never be more than a poor imitation. And, with his 16mm. camera and little team, he can wrinkle his way into the middle of things and shoot away happily, presenting his story against a real, live background, in a way that may be much more difficult for the full-blown professional.

Taking a shot in the classroom for "*Nous Etions Treize*"; the cameraman is another 18-year-old, a member of Delvaux's Senior English class.



It's not easy (I know—I've recently spent afternoons trying to coax intimate performances out of two long-suffering friends, one of them completely inexperienced, right slap in the middle of Trafalgar Square!), but with a little bit of luck he can plant his actors right down among real people going about their business on the pavements, outside the shops, across the parks and in the fields. The result can be a movie which gains depth from the truth of its environment.

This is very different from making a picture in which the streets and the gardens and the houses form merely a casual back-drop. British amateurs seem to wear the same blinkers as most of our professionals; they rarely look fairly and squarely at the British scene. There have been plenty of films which have been shot in, say, the London suburbs. But has there been one which was truly placed in an accurately observed suburban setting?

One of the strengths of *Nous Etions Treize*, which distinguishes it from nearly every British amateur film one sees, is the way in which the cobbled streets and desolate waste patches outside Brussels have been used, in nearly every shot, not only to add emphasis to the action in the frame, but also to provide a world in which the characters really seem to "belong." I know there have been a few of ours which have achieved this—*Paper Boat* had a story which derived realistically from the locales in which it was shot, and *Broken Images* looks at the city scene with a true (if alcoholic) eye.

But in how many of the films entered for the 1958 Ten Best competition, I wonder, will the writers and the directors have captured that sense of place which comes from looking eagerly at life around and exercising the selectivity which is every film-maker's privilege? How

many of the films will be about real people in real places—about things as they are? Or will the "Oscars" go to the clever imitators ("Look, chaps, I can do lip-sync!")?

André Delvaux, by the way, does a great deal of work for Belgian television, including making 16mm. films for the electronic screen. He is at present shooting a 30 minute fiction piece. I asked him whether this was "amateur" or "professional." He didn't know! In Belgium, where there is no great, organised entertainment film industry, the talented amateur can become, by degrees, the lucky fellow who actually gets paid for doing what he most wants to do. It seems that no one talks about the "amateur movement" and tries to push talented work out of court because it's just on the edge of professionalism.

As Stanley Reed remarked in a recent *A.C.W.* article, what we need here is more mixing between amateurs and professionals. What matters above all is that people who want to make films, and who have the imagination and the talent, should somehow get their opportunities. Amateur film making should not exist as an end in itself. It should represent one field of activity (perhaps not very clearly defined) from which good films emerge and within which genuine talent develops.

It's difficult enough for the newcomer to penetrate the formidable barriers which the industry has erected around itself. Let's not make it more difficult by denying anyone the right to get a footing among non-professionals, just because he's more concerned to make what he wants to make, by hook or by crook, than he is to observe the jealous conventions which a few "amateur cinematographers" have wished up to protect their own ordinariness.

Popular Cine Fallacies

COMPILED BY D. COLLINS

Can't film rainbows. Of course you can: try! Usually it is an average subject in full sun and so needs f/8 with colour film. Home-made rainbows, side-lit by low sun on your garden sprinkler, are more controllable than the full-size affair.

Can't film in the rain. Oh, yes you can! No effect on exposure; simply apply the exposure guide or meter in the usual way: during rain it can be sunny, cloudy bright, cloudy dull, or gloomy. The rain does not normally show, but wet pavements enhance many shots, specially of illuminations.

Can film lightning. Not really: the flash lasts only a few milliseconds normally, so it's even chances that your camera shutter will be closed during the flash. To be sure of a frame, leave shutter open (on dark night only) facing storm centre. This can be done with most cameras by allowing the motor to run out. (Note: correct method is to superimpose the lightning flash from a still, filmed in the titler.)

Large overlap makes strong splice. No: opposite is the case, due to disrupting forces when splice is flexed over sprockets.

Large aperture lens is the best. Only if you have got to have the large aperture. At f/8 it is even chances that an f/3.5 lens will be better than an f/1.9 of the same make, because it is less complex and there is less glass.

Zoom lenses facilitate tracking shots. No, the effect is different. In tracking, the perspective continually varies; in a zoom shot the perspective remains constant.

But if you switch from standard to tele lens you get a different perspective. No. Perspective depends only on viewpoint and is independent of lens focal length.

Colour film puts blue into shadows, which is wrong. Yes and no. It puts in the blue because the blue is there. The trained artist is aware of this but the average audience refuses to believe it. A visit to a picture gallery would soon prove them wrong.

Glass beaded screens are the best. No, matt white is best if adequate projection light is available. Any other surface gives varying degrees of image brightness, depending on the relative position of projector and viewer.

Picture brightness depends on distance from projector to screen. Not alone: you can retain the picture brightness while taking the projector five times further from the screen, by using a projection lens of five times the focal length.

Projectors need a power rewind. Indeed they don't! They are not needed for library films which should be returned without rewinding; personal films are much best hand-rewound on a rewinder, and should be passed through soft cambric for periodic cleaning.

The 9.5mm. Reel

By CENTRE SPROCKET

FEW amateurs use the single frame device on their cameras except perhaps for animation, yet it has several advantages. For example, if you are making a film of your holidays and need to identify the shots easily when you get home, take a few cards with you and note the details down at the time of shooting. Expose one or two frames on the card before the relative shots and the scenes are automatically tagged, making editing very much simpler. There is no need to centre the card accurately as long as it can be read. Even if it is slightly out of focus, it doesn't matter much. Leaders, too, can be spelt out letter by letter and filmed in single frame. It may sound tedious, but is really quite quick, and makes film identification very easy.

If you have a camera like the Dekko, the operating lever or button of which can catch accidentally on the case when the camera is withdrawn or replaced, you can prevent film being wasted merely by turning the knob to single frame. If it does catch, then all you lose is one frame. Similarly, when loading film, you will be less likely to waste it and can see more easily if it is running properly through the gate, if you ease it through a few frames on single frame operation, rather than giving it a short burst.

HAVE you noticed that the speed rating of Pathe-scope colour film has been advanced from 23 deg. Sch. (10 Weston) to 25 deg. Sch. (16 Weston)? The change seems to have occurred some months ago, but no warning was given. Hitherto there has been no mention of the speed on the carton, but only in the leaflet inside. The first indication of any change was the appearance on cartons of a minute white label bearing the legend "25 Sch." in red. A sticker on the relevant part of the leaflet matched the original so well that one did not notice it.

Just to make things more difficult, there are no labels on the latest cartons, though there are new leaflets inside, so externally the packages of new stock are indistinguishable from those containing the old. For the next year or so, one will need to scrutinise both carton and leaflet if exposure errors are to be avoided. Pathe-scope claim that they have taken every reasonable step to keep the user informed of the change of rating.

Incidentally, a thought for 16mm. fans. At its new rating, P.C.F. is twice as fast as, and cheaper than, 9.5mm. Kodachrome, even allowing for the cost of processing the latter abroad. Why not P.C.F. on 16mm.?

IF you are an Archers fan, you will remember the episode where Jimmy Grange dropped Phil Archer's cine camera. It's so easy to prevent such accidents. All you need is a short length of strong cord made into a loop and clamped securely into an eye, and a short pin. Whitworth bolt. The eye can be picked up for a penny or

two as a tag for soldering on the end of a cable for connection to a terminal block.

Simply insert the screw through the eye into the tripod bush of your camera and loop the cord round your wrist. If you make it longer, you can loop it round your neck instead. Either way, if you accidentally drop the camera, it won't hit the ground.

RUMOUR has it that the new projectors said to be on the way use nylon gears and have solid lubricant bearings, which don't need oiling, so they should be exceptionally silent. And a reader tells me he has seen 100ft. 9.5mm. colour cartoons for sale at £3 a reel. Other new items occasionally appear in the shops, but no advance (or other) publicity has been given them, and it is only by accident that anyone ever hears about them. One still waits for a 9.5mm. publicity campaign to get under way.

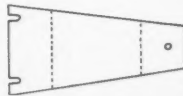
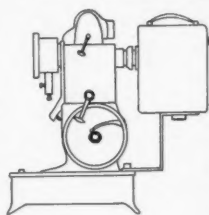
"You wanted it—requested it—now it's here," says the advertisement of 8mm. and 16mm. Gevacolor. We also wanted 9.5mm. Gevacolor. It's available on the Continent—and in four different packings, whereas 8mm. and 16mm. are restricted to one size of reel each.

My Pet Gadget by Centre Sprocket

ALTHOUGH it is some thirty years since my old Home Movie was made, I still find many uses for it. For copying, it is ideal. All you have to do is put the camera lens straight down the projector lens barrel and focus both lenses at infinity. Since the lens normally fitted in a Home Movie was a 25mm., which is virtually identical in focal length to that of the normal 9.5mm. camera lens, it acts, in effect, as a 1 : 1 ratio optical printer. The lamp being of low wattage, stills can be projected without burning the film. If you have some old films with notched titles, this is by far the easiest way of making running titles to modernise them.

For locking camera and projector together, one needs a very simple bracket, made of 1/4 in. sheet steel, or something similar. The diagram shows the general layout. The camera is attached by the tripod bush, and the bracket fits to the projector by the two front screws which normally lock the super-reel take-up attachment. A development of a typical bracket is shown in the diagram. The dotted lines indicate where it is bent at right angles. No measurements are given, as these depend on the dimensions of your camera and the position of the tripod bush.

Since the projector is not being used to project films in the normal way, it does not need to be in perfect condition. As long as the lens is all right, the film track in good condition and the lamphouse complete, the rest doesn't matter much. Such projectors can still quite often be picked up second-hand for a few pounds and, if you want a cheap optical printer, are a bargain.



LIGHTING

ALL ABOUT FILMING INDOORS

This survey provides all the background information you need to enable you to set the Do-It-Yourself ideas which follow in the right perspective.

FILMING indoors is easy when you know how! You only have to provide the light: enough of it, and from the right directions. The most suitable films are the very fast ones such as Kodak Tri-X Reversal. Some negative films are even speedier, but Tri-X is the fastest reversal film available in Britain to 16mm. users. For the 8mm. and 9.5mm. user there is nothing of comparable speed, though a new emulsion by Perutz, about to be marketed in 8mm. in Germany, may become available here, together with processing facilities. The fastest 8mm. film (also on 16mm.) on the British market is Gevaert Ultra Pan (speed rating rather less than half that of Tri-X Reversal).

The medium speed films such as Kodak Plus X Reversal (16mm.), Super X Reversal (8mm.), and—rather slower—Gevaert Super Pan, are just fast enough for most amateur work indoors, and they have the advantage of giving a crisper and finer-grained picture than the very speedy emulsions. They require more light, of course, but not so much as to present any real difficulty. Kodachrome comes in what is today regarded as the slow film category, Type A requiring a lot of light, so it is difficult to shoot anything much more than close and possibly mid shots, but moderately close shots lit to a suitable level with the simplest lighting units can give quite thrilling results.

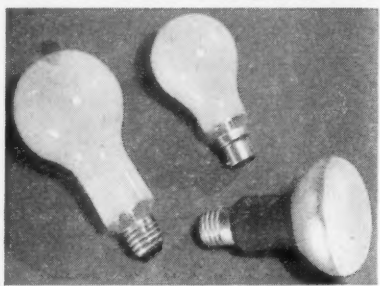
Lamps

PHOTOFLOODS are over-run lamps with a high efficiency, that is, a high lumen output of light per watt of electricity consumed. They give a lot of light for a moderate electrical consumption. The price paid for this is a short life. They are available in two sizes: No. 1, 275 watts, average life of 2-3 hours, price 2s. 6d., and the larger No. 2, 500 watts, average life 6 hours, 6s. Both are made with either ordinary bayonet cap or Edison screw base; in the past it was usual practice to use No. 1s with B.C. fitting, and E.S. No. 2s. E.S. caps are preferable for the No. 2 since this rather longer bulb needs more support than our ordinary B.C. lampholders can give to lamps used horizontally.

Reflectors are made in two basic shapes: straight sided, and parabolic. The first (e.g., Kodaflector) are very portable, for they open out and pack flat, but tend to give a hot spot (a bright patch) in the centre of the flood of light. Most reflectors nowadays are parabolic, designed to throw a fairly even flood of light. Dirty or tarnished reflectors are very inefficient and may lower the light output by as much as half. Old and blackened bulbs also give less light. The cheaper reflectors are designed for one size of lamp (e.g., No. 1 photoflood) and will not be fully efficient with a larger lamp (e.g., No. 2 photoflood). The better ones have an in-and-out adjustment, enabling the lamp position to be set for best efficiency for various sizes of bulb.

Reflector Photofloods

Photoflood lamps are also made with built-in reflectors, the back of the bulb being silvered. The No. 1 Reflector Photoflood (which gives about twice as much light as a normal No. 1 in an average reflector) costs 10s. 6d., and the No. 2, 17s. 6d. Their high cost makes it almost imperative to use series-parallel switching. Since no other reflector is needed, they are very easy to use, especially in banks of several packed close



Practically all amateur filming indoors is done with photoflood lamps, because they give the maximum light for a given wattage input. Most popular is the No. 1 (2s. 6d.) with an average life of two to three hours. The larger No. 2 gives twice the light and lasts about six hours. More expensive but highly efficient are the reflector photofloods (No. 1 size shown here; a No. 2 size is also available and is excellent for use with colour film).

together so as to appear almost as one large light source, rather than a number of separate sources.

If you intend using only black and white film, but hope to film quite a lot indoors, you will find it economical to use 500 watt Photoparl lamps (E.S. cap). Higher in initial cost (22s. 6d.) than the No. 2 photoflood, they have an average life of 100 hours, but do not give quite as much light as a photoflood of the same wattage. These bulbs are not really suitable for Kodachrome A, the light being slightly yellower than that from the photoflood. Perfectly serviceable lamp supports can be made of stout wire bent to shape, to stand on a table or hang from hook or picture rail, but it is, of course, preferable to use floor stands, with height adjustment and facility for tilting the lamp.

These lamps are all floodlights. Professionals also use spotlights, which have some sort of lens in front to marshal the light into the desired beam spread. The better ones are too expensive for the amateur even to consider. The famous Mole-Richardson Solarspot 500 (or 750) watt unit (the "Pup," in studio parlance) costs around £40 complete. But then it is made to stand up to the bashing it so often receives in continuous studio use.

Where to Place the Lights

INDOOR lighting must look natural; that is, the lighting set-up must be such as to give the impression that the light is coming from one source, though several lamps were used. Start with the *main* or *key* light. Natural light is generally directed downwards; so must our key light. It must show up the roundness and shape of the subject, so the light will come slightly from the side, rather than from head on. For many years now photographers have talked about "45 degree lighting": key light 45 deg. to the side and 45 deg. downwards on to the subject. It is a very good axiom, though usually a bit exaggerated for cine use. Generally it is best to have the main light from about 30 deg. to the side and 30 deg. downwards.

The shadows thrown by the main light alone will appear too dark when photographed, so it is necessary to have some *fill light* to lighten them.

This generally comes from the opposite side of the camera from the main light, almost on the camera axis but from slightly above. The exact position must be fixed by trial, judging the effect while moving the lamp around a bit.

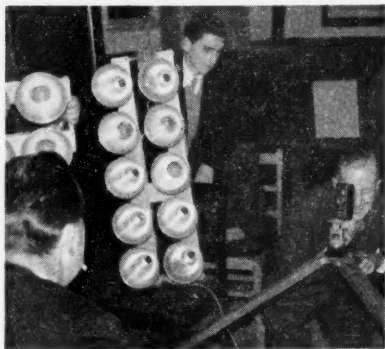
The ratio of main light to fill light is the *lighting contrast*. For black and white work, a ratio of from 2:1 to 4:1 is usual. An effects shot for a tense dramatic story would perhaps be lit with a ratio of 4:1 or even more, but for normal cine work a ratio of 2 or 3:1 is adequate. For colour work, keep the lighting contrast fairly low, say 2:1, since the colour provides a degree of modelling that in black and white work often has to be picked out with more contrasty lighting.

Lighting the Background

A fully lit subject is so bright that it is very difficult to judge the exact effect of the lighting on it. No professional cameraman would allow himself to be seen dead without a dark glass hung on a string around his neck. No one seems to market such a glass for amateur cinematographers, though the P.V. (Panchromatic Vision) filter made by Ilford comes near it. However the black end from a piece of processed colour film (preferably 35mm. size to make a convenient eyeglass) will serve admirably. An exposure meter can be used for measuring lighting contrast simply by reading incident light first from the direction of the main light, then from the fill light (e.g., if the fill light gives half the intensity of the main light, the lighting contrast is obviously 2:1).

The background should be lit, separately, to about the same level as the rest of the subject, i.e., there should be about the same amount of light on it as on the rest of the subject. In practice, if you have used one photoflood as the key light, and another as the fill light, you can use a third lamp to illuminate the background. By lighting the background separately, you can space the people away from it, thus avoiding throwing shadows on it. The separately lit background also gives a better feeling of space and distance.

If you have a fourth lamp, you can use it to provide a certain amount of back or top lighting. Take care that it is fully screened from the camera lens, which can be shielded, if necessary, by a large piece of black card (professional name: nigger or gobo).



Useful bank of lights built by Potters Bar C.S. See also Birmingham C.S. high intensity lighting unit, page 799.

Lamps and Distance

THE GOOD old Inverse Square Law says that the light from a floodlamp varies inversely as the square of the distance. In plain English, if you move a lamp twice as far away, it will be only one-quarter as intense on the subject. If you move it three times as far away, the illumination on the subject will be reduced to one-ninth.

Clearly, lamp distance is critical as regards exposure. If you have the lamps in fairly close and have the desired light intensity for a close-up, then move back everything to twice the distance for a medium shot, you would need four lamps for each one you had before! Even more alarming, if you move back everything to four times the distance, you would require 16 lights for every one you had before. But only the lamp-to-subject distance affects the exposure. Camera-to-subject distance has no effect.

It is not good practice to use multiple lights. They tend to give multiple shadows where you're expecting to see only one. Far better to use one No. 2 photoflood than two No. 1s side-by-side. But if you want to take medium and especially long shots and have not-so-wide aperture lenses, you will almost certainly have to use multiple units (in banks of, say, two or four) in order to get enough light on to the subject.

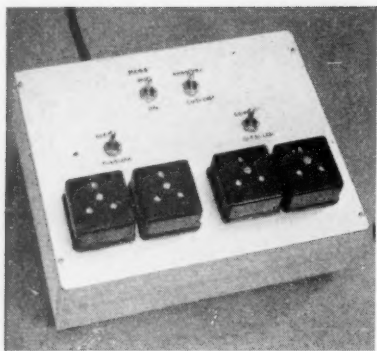
Using Your Exposure Meter Indoors

THERE can be no doubt about it: the best way to determine exposures indoors for reversal cine work is to measure the incident light, i.e., the light falling on the subject. Most of the modern photoelectric exposure meters are provided with incident light attachments, usually some sort of opal plastic light collector which fits in front of the light-sensitive cell on the meter. The density of the opal has been calculated by the manufacturers to allow exposures to be read off in the normal way. No allowances or other corrections are required when using incident light readings with any normal subject.

Usual practice is to hold the meter at the subject position, with the opal light-collector pointing towards the camera. Some meter manufacturers recommend angling the meter somewhat towards the principal source of light to obtain the highest possible reading. Other meters use specially shaped light collectors which do not require moving to pick up light coming in partly from the side.

Even if a meter does not have an incident light attachment, it is still a simple matter to use it to measure incident light. Just get a large sheet of blotting paper, absolutely clean and white, hold it directly in front of the subject, and point the exposure meter cell straight at it. Do not use any incident light attachments; just use the meter as it is for reflected light readings. Read the light reflected from the white paper. Move paper and meter around a bit to get the highest possible reading, and take care to avoid reading on the shadow of the meter.

Having taken the reading set the emulsion speed to one-eighth of the normal rating, and read off the exposure normally, e.g., if the emulsion was ASA 40, set the meter to one-eighth of this (to ASA 5), and read off the exposures directly. The principle here is that the white paper reflects eight times as much light as the average subject. In the case of meters with Log. type scaling of emulsion ratings, subtract nine deg. from the usual speed rating. This again corresponds to the eight times difference, so that exposures can be read off normally.



Components are mounted on an aluminium panel fitted on a simple wooden box. The underside is ventilated, so that the heat generated by the Brimistors on starting is quickly dissipated. Functions of switches are neatly written on the metal with Indian ink, then varnished over for protection. The switchbox suits four No. 1 photoflood lamps.

PHOTOFLOOD lamps are so greatly overrun that they last only a couple of hours. Some of this short life is wasted in the time taken to set them up preparatory to filming. Also, switching them on produces such a surge of current that they often blow. Indeed, a high proportion blow at the moment of being switched on.

The starting surge can be completely eliminated by having a Brimistor in series with the lamp. It is an equally simple matter to economise on lamp life when getting ready for shooting. By using the lamps in pairs, plus a special switching arrangement, any two lamps can be switched to be in series during setting up. They will then burn at reduced brightness (because the total mains voltage is being shared between them). Running in this way, they should last for several hundred hours. The aim is to have full brightness only when it is required.

The very great saving in lamp life makes it well worth while spending a little money on parts to make a plug board incorporating both Brimistors and series-parallel switching. I intended using a series-parallel switch of the rotary type—as fitted to cookers—but it does not appear to be universally available in smaller sizes; so I chose a small double-pole change-over (D.P.C.O.) switch of the 6 amp. size made by Painton. I used two more of the same type of switch—but wired as

Economise on photofloods with a

Series-Parallel Switch Box with Brimistors

first switch is arranged as a double pole on/off switch for the mains for all four lamps. The second is for shorting the two Brimistors, each half of the switch controlling one Brimistor. The other two switches are for the series-parallel connection of the two pairs of lamps.

I used an aluminium panel for the switches (from a radio constructor's shop and made a wooden box for it), first, because they have metal bodies which I wanted to earth for safety reasons; secondly, they suit a panel thickness of only up to about $\frac{1}{8}$ in. so it was out of the question to have $\frac{1}{2}$ in. plywood. The Brimistors were held by their wires in a bakelite type terminal block fixed beneath the panel, and were, of course, spaced well away from the metal and from all other wiring. Ventilation is provided by a hole in the bottom of the box, covered with a piece of perforated zinc. Rubber feet keep the box off the floor and allow air to circulate beneath it.

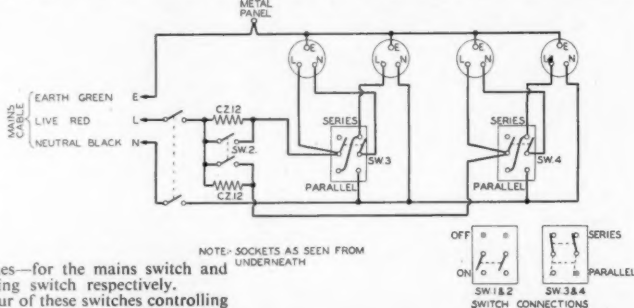
Follow the Colour Coding

The wiring is shown in the diagram. I chose a 10 amp. catbyre 3-core mains cable, 6yd. long, and adhered strictly to the colour coding of the connections throughout. An extra 2yd. of the same cable was bought and the outer covering stripped off, to provide the colour coded and insulated wire. Most of the connections are, of course, screw type, but the switches have tags which need soldering, with resin-cored solder (liquid flux is not suitable for electrical work).

The mains cable is brought straight to the centre pair of tags on the on/off switch (left on diagram); the dotted line between the two switches indicates that they are "ganged," i.e., are two halves of the same switch. Note the earth lead (green wire) taken straight to the tag attached to the metal front panel of the unit—thereby earthing all the switch bodies. Note also that the mains cable is clamped with a cable clip to the panel, so that it is not liable to be pulled adrift by the usual rough treatment!

The connection to the series-parallel switches have been drawn in the way they appear on the switch, for ease in wiring. The internal connections are

Wiring diagram of the series-parallel switchbox. Switches are, from left to right, double pole on-off, double pole two-Brimistor shorting switch, and two series-parallel switches. All four can be double pole double throw type of about 6 amp. ratings.



simple on/off switches—for the mains switch and the Brimistor shorting switch respectively.

In all, there are four of these switches controlling four No. 1 photofloods, used in two pairs. The

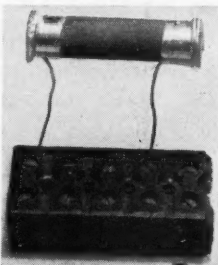
shown at bottom right. All four switches are, of course, the same, but they are wired slightly differently, as shown. One of the six tags on each series-parallel switch is not used, this being marked NC (no connection) on the drawing. In the case of the on/off switches, two of the tags are not used. Note that there is a linking wire diagonally across each series-parallel switch. When drilling the metal panel, be sure to make holes large enough for the wires to go through to the sockets. I used $\frac{1}{16}$ in. dia. holes here, so that the wire passing through the panel is well clear of the metal; so the edge of the hole in the metal cannot possibly cut into the rubber covering on the wire.

All the wiring having been completed, the functions of the various switches were neatly written on the panel with Indian ink, then varnished over with artist's varnish to prevent it chipping off. The box was painted grey, and the rubber feet screwed on the bottom.

Electrical experts may argue that the CZ.12 Brimistors are not being used in quite the correct manner, since they do not reach their full rated

... And Just What Are Brimistors?

Brimistor type CZ.12, held by its wire ends in a terminal block.



Brimistors are a special type of electrical resistance with a strong negative coefficient; they have a high ohmic resistance when cold, but a low resistance when hot. These little devices go under the general name of "thermistors" (thermo-sensitive resistor) but the best known type in Britain is a product of Standard Telephones and Cables Ltd., the parent company of the makers of Brimar valves.

They have been known for many years in the radio trade, but only recently have high current types been made available to suit lamp circuits. Incidentally, Brimistors should not be paralleled to get a higher current carrying capacity, because for technical reasons it is practically impossible to get them to share the load equally. However, the largest type now available (CZ.12) carries a maximum current of 2½ amps., so finds uses in photoflood circuits and in certain projector lamp circuits.

Being heated by the current passing through them, they get extremely hot in use, so they must be mounted in air, supported by their stout wire ends—from, for example, a terminal block. They must be kept away from other wiring and from the walls of their enclosure, for insulation as well as because of the heat from them. Some ventilation should be provided to the enclosure in which a Brimistor is located, and it should naturally be protected from prying fingers because it will, of course, be electrically alive when the mains are on it.

Brimistors have a high resistance at the moment of switching on the lamp with which it is wired in series, but quickly heats up and in a second or so their resistance has dropped sufficiently for the lamp to be almost up to full brightness. At this point, the Brimistor should be shorted across—by an extra switch—so that it is out of circuit and able to cool down ready for the next switch-on.

MATERIALS REQUIRED:

- 4 switches, Painton 6 amp. double pole double throw type. (Approx. 6s. 6d. each from Painton & Co. Ltd., Kingshorpe, Northampton).
- 4 plug sockets, of your usual type (Woolworths, or any electrical shop).
- 2 Brimistor Type CZ.12 (5s. 6d. each from most larger cine dealers).
- 1 eight-way terminal block.
- Sheet metal for panel, approx. 10 × 8 in. Preferably aluminium $\frac{1}{16}$ in. thick, though any other metal can be used up to about $\frac{1}{16}$ in. thick.
- 1 dozen 6 B.A. countersunk screws $\frac{3}{16}$ in. long, brass or steel, and 1 dozen nuts and washers to fit.
- 8 yards (approx.) tough rubber sheathed flexible 3-core (cabletyre) 10 amp. cable.
- 1 cable clip to suit this cable.
- Wood, screws, etc., for making box. Small piece perforated metal for bottom ventilator. Four rubber feet, approx. 1 in. dia.

operating temperature when the lamps are in parallel. However, they work very well indeed in preventing the initial surge of current when switching on. The starting surge through photofloods in series is much less severe than when switching them straight on to full mains voltage, but the addition of the Brimistor reduces even this surge, and allows the lamps to warm up quite gradually.

Using Kodachrome A

by keeping the lights (with efficient reflectors) fairly close in, the requisite level of illumination for Kodachrome A (ASA 16) can be obtained with the simplest equipment. With two No. 1 photofloods in Kodaflector type reflectors, their "hot spots" trained directly on the subject, the exposure at 16 f.p.s. should be:

Lamps to subject distance:	8ft.	6ft.	4ft.	3½ft.
Lens aperture:	f/1.4	f/2	f/2.8	f/3.5

The same exposures apply for No. 2 photofloods in parabolic reflectors, and for No. 1 Reflector type photofloods. Ordinary No. 1 photofloods in parabolic reflectors need one stop wider aperture.

Use one lamp near the camera, and one slightly to the side and a little above it. A third lamp used to light the background will not affect the exposure. It is generally possible to work with the lamps in closer to the subject than the camera (but take care that they don't get into the picture).

At these relatively short lamp-to-subject distances, even a slight movement of the subject closer or further away can make a great difference in the light intensity, so distances must be checked accurately. If an exposure meter is used for incident light measurement, be sure to measure the light at the exact position of the subject. Minor variations in lamp-to-subject distance will not have so much effect on exposure if you have enough lamps to enable you to put them further back.

Do not augment the photoflood light with daylight. It may be an interesting experiment to try mixing lights, but not on a shot you care about! At least you will learn that whereas the eye readily adapts itself to see different hues of light as white, colour film records things as they really are.

If you wish to use Kodachrome Type A in daylight, place a Wratten No. 85 filter over the camera lens, and expose as if you were using Kodachrome Daylight film (ASA 10). Note that the reverse procedure is not practical, (except for titling) because if Daylight Kodachrome is used in photoflood light—with Wratten No. 80b filter over lens—the effective speed rating is low (about ASA 5, or about one third the speed of Type A).



The lamp bar in use. Note the extra light to illuminate the background, effectively separating the planes of the subject.

It isn't often that I get out in front of a camera, but on one such memorable occasion I was filmed by a charming young lady cinematographer—well, why not?—whose only lighting consisted of two bare photoflood lamps held aloft on a broom. There and then I decided that there must be a better way of doing these things! The result is this lamp bar, taking two photoflood lamps in reflectors, with a platform for the camera between them. It is a simply made and reasonably portable way of providing illumination for filming parties or even just the ordinary events of the home—for the sort of filming that you just wouldn't do if you had all the trouble of setting up lights first.

Most of the commercially available lamp bars have the camera located centrally between the two lamps. This, I have found, tends to give the effect of cross lighting, especially on close-ups where the face is illuminated equally from each side. I therefore decided that my lights must be arranged differently: one well above the camera level and a little to one side, and the other on the other side of the camera quite near the lens, though still slightly above it. By keeping both lamps appreciably higher than camera level, I avoid the unpleasant ghoulis effect that comes from lights lower than the lens. My lighting, with the one lamp to one side and above the camera, and the other as a fill-in light at the camera, gives as pleasing illumination as can be obtained from a portable lamp bar.

I do not exactly shine as a home handyman, nor have I anything more than the most rudimentary workshop facilities, so my lamp bar had to be easy

No bother over setting up lights with this

PORTABLE LAMP BAR

to make, with simple tools. A wooden construction therefore, it had to be.

The basis of the lamp bar is a 30in. length of $2\frac{1}{2} \times \frac{3}{4}$ in. (finished size) wood. The lamp brackets are of the same size wood, the left side using a 9in. length, and the right a 15in. length. Each is pivoted to the main bar with a $\frac{1}{2}$ in. bolt, nuts, washers, and spring washer—done up tightly enough for the bracket to stay firmly erected but allowing it to be folded down readily for storage. A block of the same size wood spaces each lamp bracket out from the bar, so that the wires on the back of the brackets will not foul the bar in the folded position.

Lampholders are ordinary batten type bayonet cap holders, screwed to the top of the lamp brackets at the front, and with the wires led through holes to the back. The wires are there clamped securely by an insulated staple to prevent them being strained by pulling. Those from the lampholders are taken to the switchbox, which is part of the camera platform.

Ample Room for Manipulation

The camera position is, as mentioned, offset from the centre of the bar, actually being close to the shorter lamp bracket when the latter is folded down. The camera platform overhangs the rear of the main bar, giving ample room for manipulating the camera fixing screw from underneath the platform. The exact size of the platform depends, of course, on the camera, but mine has been used with three different cameras quite satisfactorily: a Specto 8mm., a Pathe 9.5mm. and an Ensign Kinecam 16mm.

The camera platform extends across the front of the main bar, forming also the top of a small box for the switches and wiring. The cable from each lampholder runs into this switchbox; so does the mains lead. The box has two switches on one side mounted on a small piece of $\frac{1}{8}$ in. thick

Underside view showing construction of the switchbox for the lamp bar. The $4 \times 3\frac{1}{2}$ in. (outside) box is made of $\frac{1}{8}$ in. thick plywood, of pinned and glued construction. The $8\frac{1}{2} \times 3\frac{1}{2}$ in. camera platform, of $\frac{1}{4}$ in. plywood, also forms the bottom of the box, the extra length being behind the lamp bar. The finished box is screwed to the main bar. Ventilation holes are made in the bottom of the box.

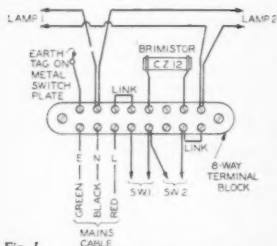
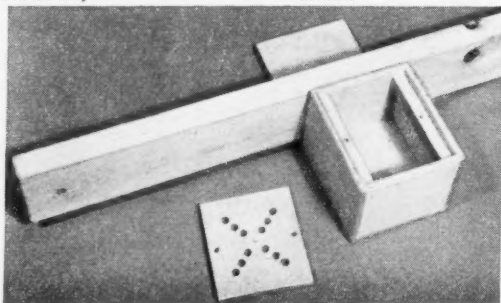


Fig. 1
Wiring diagram for the lamp bar, showing a neat layout of the wires and Brimistor, using an 8-way terminal block.



aluminium, and let in to the side of the box. The box also houses a terminal block and the Brimistor.

This Brimistor—a temperature sensitive unit, which is of high resistance when cold, and low when heated by the current passing through it—is in circuit when the lamps are switched on, and prevents the great surge of current that goes through cold lamp filaments. This CZ.12 Brimistor is large enough to carry the current of the two No. 1 photofloods. Immediately after the lamps have been switched on, the Brimistors (which have then done their job) are shorted across by a second switch (thus being put out of action) and allowed to cool down, ready for the next switching on.

Ventilation

Ventilation of the Brimistors is provided by making holes in the bottom of the switchbox (Fig. 1). The bottom of the box is only fixed on by screws, so is easily taken off to enable one to reach the internal wiring. Note that each of the cables should be held to the wooden box by insulated staples or small brass straps. It is very bad practice to allow wires to hang by their connections.

The wiring in the box is kept neat by using an 8-way terminal block, in the way shown in Fig. 1. Note that the Brimistor is supported by almost the whole length of its own wire ends; this is because the Brimistor material itself gets hot, so must be kept slightly away from the terminal block, and from the wiring and the sides of the box. I used a Grelco 8-way terminal block, but there are several makes, some being sold in strips of 12 which can be cut off as required (they are sometimes called "chocolate blocks").

The mains lead was of 3-core cable of 5 amp. capacity, and I used five yards so that it would be long enough to reach anywhere in the room without trouble. The earth wire is taken to the metal plate which forms the switch panel, thereby earthing the metal bodies of the switches for safety. The wires from the switchbox to the lampholders are only 2-core, because with plastic lampholders there is no need to earth them.

Balance

A handle for holding the lamp bar when using it is shaped from wood, and fixed to the main bar just to the right of the camera platform (as seen from the back). In this position it will be as near as possible to the centre of gravity of the assembled bar when the camera is on it, so that the whole thing will balance reasonably well in the hand.

Even when working with this very portable lamp bar, it is still good practice to use a tripod whenever possible, so I fixed a metal angle bracket to the main bar directly below the camera platform.

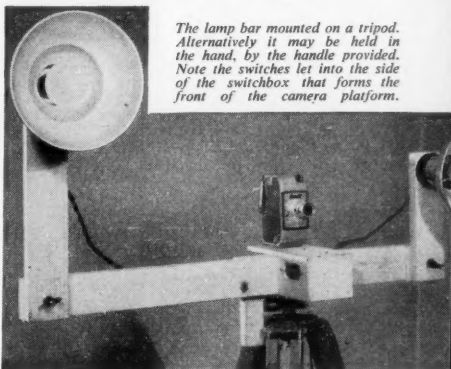
MATERIALS REQUIRED:

- 3½ ft. 2½ in. x ½ in. (finished size) wood.
- 8½ x 3½ in. plywood ½ in. thick.
- Small quantity plywood ½ in. thick for making switchbox.
- 2 coachbolts ½ in. Whit. 3 in. long, with washers, spring washers, and wing nuts to fit.
- 2 batten lampholders B.C. fitting.
- 2 aluminium reflectors to suit No. 1 photoflood lamps (about 6s. each from most good cine dealers).
- 3 yards twin flex 5 amp. for wiring lampholders.
- 5 yards 3 core cable for mains lead.
- Plug of your usual type.
- 2 switches, 3 amp. single pole on-off type; about 3s. each from radio components shops.
- Small piece metal sheet for switch panel.
- 1 eight-way terminal block (Grelco).
- 1 Brimistor type CZ.12.
- 1 angle bracket, very stout type, approx. 2 x 2 in. (or make from a piece of angle iron).
- Sundry screws for assembly of parts.

A hole was drilled ½ in. diameter, and tapped ½ in. Whit. to suit my tripod. The whole lamp bar now fits readily on the tripod or is just as readily held in the hand. Note that some types of tripod may need more separation between angle bracket and the wooden handle, for the latter to clear the edge of the tripod top.

If desired, the lamp bar can be given a professional look by staining the wood, and possibly having the more obvious metal parts plated, though plating generally proves rather expensive except on the smaller parts.

When the bar has been assembled and wired up, the lamp reflectors are put on the lampholders in the usual way, being held in place with the retaining rings provided on the lampholders. A No. 1 photoflood of your voltage is fitted in each holder, and the unit plugged into the mains. The first switch is put to the "on" position, and the lamps light up fairly slowly and with just a fraction of a second delay. That is due to the Brimistor



The lamp bar mounted on a tripod. Alternatively it may be held in the hand, by the handle provided. Note the switches let into the side of the switchbox that forms the front of the camera platform.

The lamps can be swung in towards the camera for best coverage of close-ups. Note that the camera is mounted off centre and that one light is mounted higher than the other to obviate flat lighting effect and introduce some modelling, allowing the lamps to light up gradually and without shock.

About one second later, the other switch also is put to the "on" position, shorting out the Brimistors, and letting the lamps come up the last little bit to full brightness. When switching off the light, also switch off the Brimistor shorting switch—that is, leaving both switches in the off position, as is logical. Having checked the unit, you then mount the camera on the lamp bar, which is then ready for use.

USING THE LAMP BAR

THE LAMP BAR makes indoor filming easy because it directs the light to where you are pointing the camera. The light from the two photofloods is constant (within practical limits, though old lamps give slightly less light than new ones). Assuming you film at 16 f.p.s., there is only one variable—lamp to subject distance—so only one adjustment to make because of it: lens aperture.

Provided you set the lens aperture correctly, you can hardly help getting technically good pictures with the lamp bar. It is therefore ideal for filming parties, Christmas dinner and other occasions where it just isn't done to upset the proceedings by setting up lamps as for "serious" filming. The lens aperture to be used with the lamp bar depends on film

emulsion speed (which is constant for any one type of film): and on lamp-to-subject distance. The table gives data for several types of film.

EXPOSURE TABLE FOR USE WITH LAMP BAR

Film Stock	Lamp-to-subject distance in feet				
	<i>f</i> /1.4	<i>f</i> /2	<i>f</i> /2.8	<i>f</i> /4	<i>f</i> /5.6
Kodachrome Type A ..	5½	4	—	—	—
Kodak Super X (Rev.) ..	10	7	5	3½	—
Kodak Plus X (Rev.) ..	11	8	5½	4	—
Kodak Tri X (Rev.) ..	22	16	11	8	5½
Gevaert Ultra Pan ..	12½	9	6	4½	—
Pathoscope VF Pan ..	11	8	5½	4	—
Ilford H.P.3. (Neg.) ..	22	16	11	8	5½

(Based on a camera speed of 16 f.p.s., and two No. 1 photofloods in ordinary spun aluminium reflectors.)

Extra lamp for lighting up the background

WHILE the lamp bar can perfectly well be used as the only source of illumination, you will get much more pleasing results by using a separate lamp—another photoflood in a reflector—to light up the background. This extra lamp can be any type—even one without a stand, but clipped to the picture rail, will serve quite well. With it you will get a much better impression of separation of the planes, and it will help to kill any shadows thrown on the background by the lamps on the bar. Best results are obtained when it is about the same distance from the background as the lamp bar is from the principal subject.

Another method of raising the level of illumina-



Exposures when using the lamp bar vary according to distance, so it is helpful to fit a rangefinder to the bar with a paper scale marked to suit a particular film. In this way, camera lens apertures can be read directly from the rangefinder.

tion is to point the extra lamp to the ceiling, so that a flood of light is reflected downwards, supplementing the main lighting from the lamp bar very effectively, though it is difficult to get quite enough light reflected down except in rooms with low ceilings.

Rangefinder Exposure Guide

THE DISTANCE between lamp bar and subject determines the lens aperture. Using a tape measure or exposure meter is tedious, but a rangefinder can be mounted on the lamp bar and its distance scale covered with a paper scale of *f* numbers, matched to any particular film. This scale, which need only cover part of the dial if the rangefinder is also used for measuring distance, can be stuck on with rubber solution (e.g., Cow) and peeled off as required for a different film. It could also be used, though not so readily, by reading the distance in feet and then looking up the *f* number on a small chart stuck on the lamp bar. T. ORR.

Getting the Best Results from Tri-X

THE FASTEST black and white reversal film available to amateurs in Britain today is Kodak Tri-X Reversal. It is four times as fast as Kodak's medium speed film Plus-X Reversal, so is excellent for indoor cinematography because it requires only quite moderate lighting levels. With a film as fast as this, no longer is it a bit of a problem to get enough light on the subject, even when the lamps are the length of the room away. Available only in 16mm., it has a speed rating of ASA 160 in tungsten filament light (33 deg. B.S. Log.). Correct exposure is given at *f*/2 with a Weston meter reading of only 0.8, well towards the low end of the low-range scale.

Tri-X has the same slightly blueish, light neutral density anti-halo base now used for Plus X reversal and for Kodak's current 16mm. reversal duplicating film. Most users find the blueish tint of the base pleasing, though it should be noted that it does not match a clear based film if inter-cut with it.

If you are content with close-ups, you don't even need photofloods. One 150 watt pearl bulb, 3ft. from the subject, without any reflector but screened from the camera lens, gives enough light for filming at *f*/2. But, of course, you will get best results with specially arranged lighting. With one No. 1 photoflood in a parabolic reflector, 10ft. from the subject it requires *f*/2, or 7ft. for *f*/2.8. If a No. 2 photoflood is being used, the lens aperture should be reduced one stop in each case (e.g., from *f*/2 to *f*/2.8).

The greatest advantage of a film as fast as this is that you don't need to struggle with banks of lights when filming the length of the room. You can put the lamps up against one wall, and get enough light to film anywhere in the room—an ideal set-up for parties and family gatherings. Here are the average lamp-to-subject distances at various apertures for two lamps:

	<i>f</i> /1.5	<i>f</i> /1.9 or <i>f</i> /2	<i>f</i> /2.5	<i>f</i> /2.8	<i>f</i> /3.5	<i>f</i> /4	<i>f</i> /5.6
Two No. 1 photofloods	19ft.	14ft.	12ft.	10ft.	8ft.	7ft.	5ft.
Two No. 2 photofloods	26ft.	20ft.	16ft.	14ft.	11ft.	10ft.	7ft.
Two 500 watt photo-pearl lamps	22ft.	18ft.	14ft.	12ft.	10ft.	8½ft.	6ft.

Information is given on page 819 on using Tri-X in a conventional lighting arrangement, with main light, fill light, and if required, separately lit background.

Other generally available films in this ultra-fast group are 16mm. negative materials (not reversal). Ilford HP-3 negative has a tungsten rating of ASA 160; H.P.3. is twice as fast, with a tungsten rating of 320! Kodak Tri-X negative film has a tungsten rating of ASA 250. Other fast negative films such as Ferrania and Gevaert are not generally available to the amateur in Britain.

All these ultra-fast films tend to be more grainy than slower ones and are less contrasty. The image quality is sufficiently different to make intercutting of shots on ultra-fast film with shots on a medium speed film inadvisable. In general, the faster the film, the softer the image quality.

Ultra-fast films are too fast for cine use outdoors in sunshine. Tri-X Reversal would need *f*/32 in average sunshine—and few cine lenses go below *f*/16. So it is necessary to use a 4× neutral density filter (Kodak Wratten N.D. 0-6) over the lens, to reduce the light by two stops, e.g., to make it require *f*/16 with the filter, instead of *f*/32 without it. Of course, in dull winter weather or late evening, when the light is very poor, the neutral density filter is not needed.

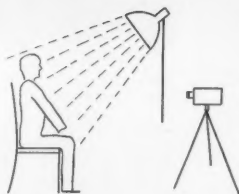


Fig. 1. In the usual basic lighting set-up, the light is arranged principally at an angle to the side and above the subject, because this gives modelling and a suggestion of roundness. But it can be tricky to use when high light levels are required for colour film.

High Intensity Lighting Unit

INCONSISTENT exposures, multiple shadows and the occasional appearance of a photoflood in a corner of the frame are the bugbears of indoor work. The lighting unit we devised goes a long way towards obviating these annoyances—and without creating new ones. It is portable, compact and quickly set up. In designing it, the elimination of multiple shadows was our first problem.

Fig. 1 shows the correct basic set-up: the lighting is arranged at such an angle that the shadows are thrown on the floor, where they are not seen by the camera. But this arrangement requires a considerable number of lamps, and a stand to carry them all would be unwieldy and probably too heavy. Further, owing to the nearness of the lights to the actor, overexposed, flared out faces can result: and if one makes allowances for this, the rest of the scene will be underexposed. How fortunate the professional feature film maker who uses this method of lighting! He can have banks of light perhaps 150ft. or more from the players.

We decided to rely almost entirely on frontal lighting coming from the same direction as the camera, so that the shadows would be immediately behind the subject and so not seen (Fig. 2). The lamps are held in a fairly heavy metal frame mounted on a tripod, and four shelf brackets are bolted inside the corners to make it rigid. For extra strength we also had the joints welded at a local garage.

Next, two hinges were mounted on each side of the frame and two wooden strips to carry the batten holders for the photofloods fitted to them. The photofloods can now be moved from side to side. After holes had been drilled for the two switches and the tripod, the unit was ready for wiring. We use series-parallel switching, and as the load—nine 500 watt photofloods—would be too much

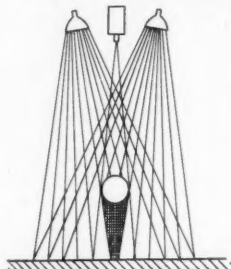
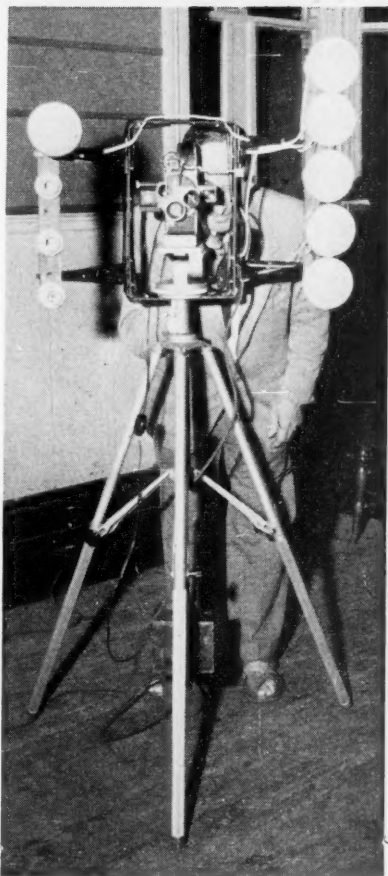


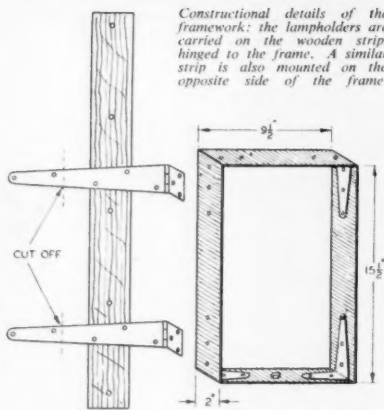
Fig. 2. Lights closely packed around the camera throw the shadows directly behind the subject where they are not evident. This avoids the unpleasant effect of multiple shadows when banks of light are used for colour film.



Birmingham Cine Society's high intensity lighting unit, with a Paillard H.16 camera in the centre of the frame. Only six of the lamps are in use, mounted on wooden strips hinged to the main frame.

MATERIALS REQUIRED:

- Lengths of mild steel strip, about $2 \times \frac{1}{2}$ in.
- About 6ft. needed for large frame, depending on size of camera.
- 4 shelf brackets, about 10in. size.
- 4 hinges, garage door type, approx. 10in. size (if required; see article); alternatively, 4 small steel angle brackets, about 3in. size.
- 4ft. approx. of $2\frac{1}{2} \times \frac{1}{2}$ in. wood.
- 9 Edison screw lampholders, batten type.
- 2 a.c. silent type 30 amp. switches, double pole on-off, e.g., Wylex, or G.E.C. X.1603.
- 1 socket of type you normally use (if required; see article).
- Cable for wiring up the lampholders, and for the mains leads.
- 9 No. 2 photofloods; silvered reflector bulb type.

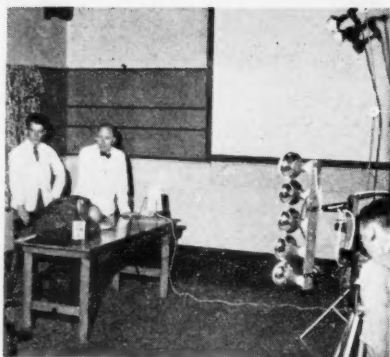


Constructional details of the framework: the lampholders are carried on the wooden strip, hinged to the frame. A similar strip is also mounted on the opposite side of the frame.

for one power plug, we have two mains leads, so can use the unit anywhere where there are two 13 amp. switch plugs.

It will be seen from the wiring diagram that there are six photofloods on one circuit and three on the other. If an additional modelling light or spotlight is needed, it is run off the latter, a socket being fitted for this purpose, as shown by the dotted lines. Series-parallel switching is arranged to use two ordinary Wylox 30 amp. double pole a.c. switches, one in each circuit (Fig. 4).

If one does not wish to use the camera on the unit, the four hinges can be dispensed with and the lamps mounted nearer together on the frame with four L-shaped brackets. The result will be the same provided camera and unit are close together. The flat lighting given by this set-up is well suited to colour film (with nine lamps at about 12ft.;



Left: Fig. 3. The frame of the high intensity lighting unit is made from 2×4 in. steel strip, and is large enough for the camera to be positioned in the centre of the frame. The lampholders are fitted to wooden strips hinged to each side.

Above: the high intensity lighting unit in use on a Birmingham C.S. film. The general illumination from the unit is supplemented by the modelling light seen at top right.

exposure is $f/5.6$ for Kodachrome at 16 f.p.s.), but for monochrome it is desirable to add a modelling light (Fig. 1). One word of warning: the actors should not be required to move towards the camera, or you may get some peculiar effects, e.g., a dress will change from maroon to bright red because of the increase in light intensity with decreasing distance. But this is a small price to pay for the ease and speed of setting up which this unit makes possible.

L. H. WESTWOOD and E. A. HUNT.

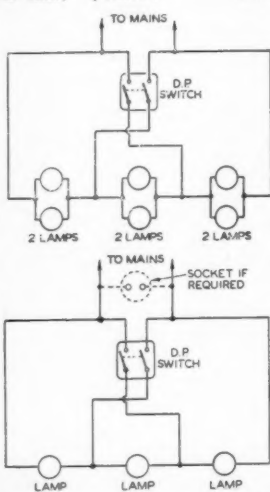
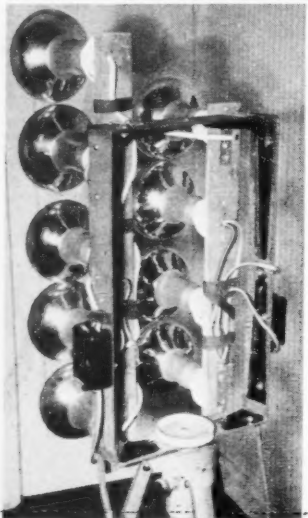


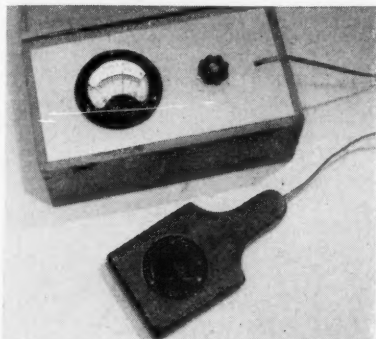
Fig. 4

Far left: an alternative form of the high intensity lighting unit does not provide for mounting the camera in the centre of the lamps. Instead, the nine lamps are mounted on wooden strips fixed to the frame with small angle pieces. Lamps are No. 2 Reflector photofloods.

Fig. 4. The series-parallel switching of the unit uses the principle of three lamps in series. Though the light output with series connection is lower than with a two-lamps-in-series circuit, the light with this unit is more than adequate for setting up. The three lamp principle has the advantage of using a simple double pole switch, and of switching the lamps directly over to parallel without even an infinitely small off period. Circuit above is for the six lamps, and that below for the remaining three lamps on the nine lamp unit.

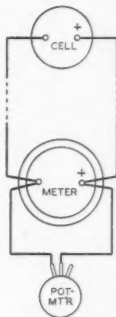
A Simple Incident Light Meter

for Indoor Use



Left: the incident light meter has the photo-cell mounted in a wooden handle which can be held directly in front of the subject when measuring the light level. A yard of flexible wire connects the cell to the meter and its sensitivity controlling potentiometer. The meter is a "surplus" 0-250 micro-ammeter, d.c., moving coil type; a paper scale has been fitted over part of the glass and marked with the desired light level, and half and one quarter of this intensity. Calibration is from another exposure meter. The knob on the "pot" is actually a spindle locking device.

Right: how the photo-cell, micro-ammeter, and potentiometer are wired. In each case the usual rear view is shown. The cell can be on a long lead—say a yard long—if desired (dotted lines).



I HAVE made my own meter for reading one specific level of incident light. It proved quite simple to use my Weston Universal meter for calibration, but any other good meter would have been equally suitable. All photo-electric instruments contain a mounted photo-cell (of the "barrier layer" flat plate type) and a meter of at least sufficient sensitivity to match a certain range of light levels. If the combination of meter plus cell proves too sensitive, the sensitivity can be damped by shunting the meter with a resistance, or by using a baffle or mask over the cell, or both.

Some of the light levels used indoors with fast film are relatively low, so I chose a 0-250 micro-ammeter as a good compromise between price and sensitivity: a 2½ in. meter by B.P.L., marked not in micro-amps, but in linear units of 0-1.0 (convenient), and also in ohms (not used in this case). The price was 32s. 6d. from Samsons Surplus Stores, 169 Edgware Road, London, W.2. Most other radio "surplus" stores have similar meters.

But a word about other meters: there are plenty of "surplus" ones on the market at surprisingly low prices, but they mostly aren't the right types for using with a photo-cell. They must be of the moving coil type, for d.c., and with a full scale deflection of anything between 50 and 500 micro-amps., according to the sensitivity desired; the first mentioned would be ten times as sensitive as the latter.

However, a 0-500 micro-ammeter (e.g., 2 in. round model with fixing clip, 17s. 6d., again from Samsons) can be used if you are going in for a fairly high light intensity (to suit a slower film),

MATERIALS REQUIRED:

- 1 d.c. micro-ammeter, 0-250 micro-amps., ex-W.D. Any micro-ammeter from 0-50 to 0-500 can be used, though the latter is less sensitive and does not suit low light levels. (For suppliers see article.)
- 1 photo-cell (barrier layer type, flat disc), mounted by manufacturer. (For supplier see article.)
- 1 wire wound potentiometer, about 1,000 ohms, and rating ½ to 3 watts (not critical). For more sensitive meters, use higher resistance, e.g., 2,500 ohms. (From radio components shop.)
- 1 spindle lock for potentiometer.
- 1 yard flexible two-core wire, light gauge.
- Wood for making box, also handle to house cell.

and have a sensitive cell like mine. If you have a chance to try your photo-cell with a cheaper and less sensitive meter "on approval," it is worth doing so. These less sensitive meters merely need less shunting resistance to match their sensitivity to the light level in use. Remember that if you haven't enough sensitivity (i.e., a sufficiently low range micro-ammeter) you will not reach a usefully high enough meter reading at your correct light level.

There are several suppliers of photo-cells; I went to Megatron Ltd., of 49a Fonthill Road, London, N.W.3 and chose a 45mm. diameter mounted cell, complete in plastic casing with screw terminals. I then hooked up cell and meter roughly with a short length of wire. Polarity must be observed; if the connections are reversed, the meter needle will try to move the wrong way. If this happens, just reverse the wires on to the meter.

Polarity Check

When first trying out the cell with meter, slowly uncover the former so that only a little light falls on it. Check that polarity is correct; if it is, slowly uncover the cell to check whether the sensitivity is too great. Do not uncover all the cell surface if it does appear so or the increased light may cause the meter to swing over to maximum rather too hard. Either mask the cell temporarily, or begin right away to reduce the sensitivity of the meter by connecting a resistance across its terminals, leaving it already connected to them.

The simplest way to set the level is to use about a 1,000 ohm wire-wound potentiometer, of anything between ½ and 3 watts rating. These cost about 4s. 6d. from radio shops. Be sure to get the sort of "pot" that lends itself to the fitting of a spindle lock, and obtain this item from the radio dealer as well. Wire the "pot" as shown in the diagram, and turn it to "minimum," just as if it was an ordinary volume control of a radio set.

Now comes the simple calibrating. Set your ordinary exposure meter (or a borrowed one!) to the appropriate emulsion speed to match the film, then set the lens stop you propose to use (e.g., f/2) against the mark for cine at 16 f.p.s. (that is normally 1/32 or 1/30th sec.). Having thus set the meter calculator dials, you can read off the light measurement for correct exposure.

Incident light readings, either with Invercone or a sheet of white paper, are taken as described in

"Indoor Exposures the Professional Way," (below). Having set the desired level of illumination by one means or the other, take the home-made meter and hold its photo-cell in the same position as the other meter, but pointing at the light. Set the "pot" until the meter needle reads a definite mark at about 60 per cent. of full scale deflection. Thus, if the meter is marked 0-100, set to 60. (The exact figure depends on the exact markings on the scale of the meter you manage to acquire at sufficiently moderate cost!)

Note this mark, move the lamp back, and use the meter to set the levels for half, and then one quarter of the original setting. For example, Plus X at f/2 normally requires a Weston Invercone reading of 3-2. The setting on the white blotting paper was 25 (i.e., three stops up) because (as already explained on page 793), the blotting is eight times as reflective as an "average" subject. The half and quarter marks were set with the Weston reading on the blotting paper at 13 and 6-5 respectively. Light measurements with the new photo-cell are, of course, taken with its sensitive surface pointing directly towards the main source of light.

After this simple calibrating procedure, mark the set lighting level and half and quarter marks, on the glass of the new meter with Indian ink, giving a dab of artist's dammar varnish immediately it dries to prevent it rubbing off. Alternatively, a card can be fitted over the glass, marked with the

three marks, and a zero as a check point, and cut away in the centre to reveal the pointer. Do not open up the meter and make a new scale for it, since the movement is fragile and easily damaged when out of its case.

The level having been set, the "pot" is locked by the device purchased for the job. It is important that the "pot" spindle should not move, since it would obviously completely upset the calibration. Incidentally, the calibration can be checked against the original meter at any time by repeating the set-up, or changed to suit a different light level. A wooden box can be made to house the meter and store the cell, which latter is conveniently mounted in a shaped wooden handle on about a yard of flexible wire so that it can be held up in front of the subject being filmed.

The half and quarter marks are for checking the lighting contrast, for example the ratio of light on the key light side of a face, to the lighting on the other side of the face. For black and white work, the ratio can be anything between 1:2 and 1:4, but for colour film the range should generally be kept low, say around 1:2.

First results were so encouraging that I acquired a larger meter (3 1/2 in. scale, 0-100 micro-amperes; moving coil, of course), used with a 2,500 ohm shunting potentiometer. The large scale is really a wonderful encouragement for setting the level really accurately.

G. P. MURDOCK.

Indoor Exposures the Professional Way

HAVE you ever been in a film studio? The professionals seem to do such a lot of complicated things that it is a pleasure to find something they have simplified into simple routine, as they have done in the case of exposure. The standard professional method is: to set the lights to give a certain fixed level of illumination on the subject, and then to use a certain fixed lens aperture. I have tried this method myself for indoor amateur work and find it works admirably.

Any ordinary exposure meter can be used for measuring the light intensity when setting the light level to the desired value. It is the incident light which must be measured, either by means of the opal attachment provided with most modern meters, or by reading the light reflected from a large sheet of white paper. The lamps are set by moving them to or fro, or adding more, until the desired light intensity reading is obtained on the meter.

I use a Weston Universal exposure meter with Invercone pointed towards the camera lens from the subject position. If I did not have the Invercone, I should measure the light reflected from a sheet of white paper held directly in front of the subject, then treating this reading as described later.

Before exposing any film by this method, it is obviously necessary to determine the meter reading of light intensity for correct exposure on the particular film at the chosen lens aperture. The meter itself gives the calibration in the usual way; for example, consider Super X film (8mm. reversal black and white), and a lens aperture of f/2-8. The film speed is set to A.S.A. 32 (the tungsten light speed of Super X), and the shutter speed will be the usual 1/30th (approx.) when filming at the normal 16 f.p.s. On the meter calculator dials, the lens aperture (f/2-8) is set against the exposure time (1/30th sec.), and the arrow points to a meter reading of one block over 6-5 (call it 8). This is the light level which must be on the subject being filmed, for correct exposure at f/2-8 on Super X.

If the light level is too high, move the lamps further back; if too low, move them in closer. If

you measure the light reflected from white paper, you will have to make allowance for the high reflectance of the paper by working to a level of eight times the light shown on the meter for correct exposure (e.g., a normal meter reading of incident light using the Invercone might be 3-2, but the same level of light measured by the white paper method will be eight times as much (25, in this case).

To show the sort of levels of illumination required for some of the films in current use, at various lens apertures, I have checked the exposures given by the Weston Master universal meter, and quote them here as examples of light intensities than can be used to give well exposed results. Users of other meters will have to determine similar figures for their own conditions. Of course, it is only necessary to calculate just one figure for your film stock and chosen lens aperture.

G. P. MURDOCK.

LIGHTING LEVELS WITH WESTON UNIVERSAL METER

Film	A.S.A. Tungsten Speed	INVERCONE			Reading from White Paper		
		f/1-4	f/2	f/2-8	f/1-4	f/2	f/2-8
Kodachrome Type A	16	4	8	16	32	64	128
SuperX (8mm. Rev.)	32	2	4	8	16	32	64
Plus X Reversal	40	1-6	3-2	6-5	13	25	50
Tri X Reversal	160	0-4	0-8	1-6	3-2	6-5	13
Gevaert Ultra Pan Pathoscope VF*	64	1	2	4	8	16	32
	80	1-6	3-2	6-5	13	25	50
H.P.3 Neg.	160	0-4	0-8	1-6	3-2	6-5	13
Tri X Neg.	250	0-25	0-5	1	2	4	8
H.P.5. Neg.	320	0-2	0-4	0-8	1-6	3-2	6-5

Table gives reading on Weston Universal Meter for chosen film at desired lens aperture.

* Lighting level with this film different from speed rating, but found correct by practical test.

Note: Invercone incident light reading taken from subject position, with Invercone pointed at camera.

Readings from white paper taken with paper held at subject position, and paper and meter angled to obtain max. possible reading.

IDEAS

exchanged here

Direct Reading Meters

I WAS most interested in Sound Track's remarks on the use of direct reading exposure meters and his description of the Blendux. I purchased a shop-soiled Blendux in 1941 for 37s. 6d., and it has served me well ever since. I was at once struck by the simplicity of the scale reading directly in *f* numbers. Like (I suspect) 99 per cent. of readers, my filming is done at 16 f.p.s., and I always use the same stock—Daylight Kodachrome. So far my Blendux has never let me down. I do not know whether it is calibrated or corrected for Kodachrome, but I do appreciate the ease of setting the lens.

Some two years ago I decided to purchase a second meter (in case of emergencies) and settled for a Weston. Though there are so many calculations to make and dials to twiddle that the sun can have gone in or out by the time the lens is set, I admire it for its neatness and—probably—greater versatility, but the Blendux is still my favourite.

London, N.W.11. M. H. W. HOLLOWAY (DR.)

The Blendux was balanced for colour and panchromatic films.

I THOROUGHLY agree that direct reading meters are of inestimable value. I have a Weston direct reading meter which has a scale calibrated in *f* numbers and is simplicity itself. The photocell is behind the dial, and openings to the cell are made by a simple shutter, on which are shown the various film speeds. These can be set against 1/35th sec. for cine or 1/50th sec. for stills.

Newbury. JOHN L. ENGLAND,

Night Shots

I WAS interested to read of Mr. J. A. Winterburn's experiences in New York. I found my way into Grand Central Station early in June this year and I, too, filmed the huge Kodak advertisement with my Eumig C.3 (f/1.9 at 8 f.p.s.) and secured a first class picture on Kodachrome. I am a novice, nevertheless I secured quite a number of good night pictures in New York and some really decent interiors at home by filming at half speed.

I wonder if Mr. Winterburn met with the same hospitality at the Kodak exhibition in this station that I enjoyed. I got a terrific American welcome and was presented with a host of excellent instructional pamphlets on cine which do not seem to be available here. Incidentally, did Mr. Winterburn, like myself, experience difficulty in finding the trains in the Grand Central?

Alfreton. K. N. FLINT.

Story in Pictures

I WAS pleased to read George Sewell's gratifying comments on the demonstration film used during one of the Missenden Abbey film courses, and I wondered if readers might be interested to know a little more about it. *Telling a Story in Pictures* is an amateur film, made in 1953, which shows the wrong and right approaches to filming a simple incident.

For classroom lessons and lectures on film appreciation I needed a visual aid to illustrate that an incident can be presented most effectively as a carefully planned sequence of related and edited shots. I was not satisfied with still picture representations, nor could I find suitable ready-made film material. The answer to the problem was, as is often the case, "Do it yourself." A colleague, R. F. Jolly, col-

laborated with me, and we worked under our banner, *Anon Films*. The result was a 50ft. 16mm. silent film which has since proved a very successful venture. It is used frequently in lessons and lectures in this country and overseas, copies of the film being distributed by the British Film Institute.

South Ruislip.

S. G. P. ALEXANDER.
Hon. Gen. Sec.
Society of Film Teachers.

More Volume from the L.516

A RECENT article tells how to get better sound from the L.516. I recently fitted a 750 watt lamp to mine (I was lucky enough to find a genuine L.516 750 watt resistance for £11). The only modifications I found necessary were opening up the lamphouse top louvres a little to get rid of the extra heat more quickly, and easing the condenser lens ring. Though these have had little apparent effect (I'd say the picture is about 10 per cent. brighter), the sound output is at least 30 per cent. up and is much crisper. So far I have run the machine for a total of about 25 hours (each show approximately 1½ hours) without any snag developing—not a lot of experience to date, I agree, but the new season has now begun!

Bristolington.

K. PIERCE.

Always glad to learn of readers' experience with modifications to equipment. The reason for the increased sound output is that on the G.B.L.516 the main lamp also serves as the exciter, and more light through the sound optical system gives a stronger signal from the photo-cell.

A Puff of Light

THOSE who use strobes for tape sync. may have wrestled with the problem of lighting the tape-driven strobe from the projector lens. One of the simplest methods I have discovered is to place the recorder fairly near the projector and just below the level of the lens. Whenever you want to see the strobe, you puff pipe or cigarette smoke around it, and the light penetrating the haze for a second provides clear illumination!

Jersey, C.I.

S. JEPSON.

Righting a Wrong

WHAT is wrong with the British amateur film maker? I have just seen the 1957 Ten Best—and what a depressing experience! With the exception of *Broken Images*, *Solitaire* and *Viking's* brave attempt, *England May Be Home*, the entrants (bearing out Jack Smith's recent comment) appear to be obsessed by a desire either to ape the commercial cinema or produce little more than a technical exercise. Why do our enthusiasts work within such narrow, confined limits—are they incapable of producing more thoughtful, original or stimulating work?

The majority of amateurs are, it seems, unaware of the richness, variety and excitement of life and the poetry which accompanies it. They are unmoved by the wealth of material to be found up and down the country, by problems of social interest, or by the importance of people. This lack of vision is probably due to an inherent British weakness: lethargy. We tend to fight shy of controversial ideas, we prefer to stay safely in line and follow the conventional pattern and we dislike the notion of tackling something which requires considerable thought. If this lethargy remains unchecked, standards of film making and criticism are bound

to fall lower. The Ten Best will become an even greater farce than at present.

The amateur film movement desperately needs a large injection of life—and the field is wide open. With unparalleled freedom the amateur can reflect, interpret and comment on life in an honest, sincere, uninhibited way. He has no need to be patronising or melodramatic. There is no reason to sit demurely on the fence closing (as he does) both eye and ear to all about him. With a little initiative, something to say and a belief in his work, the amateur will vitalise his dull, monotonous, approach to film making.

A few of us in Manchester are completing our first film together—*Enginem*. It is set in a locomotive shed early one morning and revolves around the men who work there. We hope that we may succeed to a certain extent in capturing the warmth of their personalities and their feeling towards the work. I am convinced that the surest way towards a healthy living film movement in this country is only possible through an imaginative understanding of the importance of the everyday. What we need is spirit and vitality, and I should be delighted to hear from anyone who is willing to send a small tale—about Force 9—through the cine clubs and film societies in an effort to achieve this ideal. Wake up! Fallowfield.

MICHAEL GRIGSBY.
Unit Five Seven.

We hope that "*Enginem*" makes the grade and emerges as one of the Ten Best. We also hope that those whose tastes differ from Mr. Grigsby's, and who find pleasure in the subjects he despises, will be more tolerant in their reception of it, and will bear in mind that it takes all sorts to make a world—parents and babies on the lawn as well as enginem.

Deodorant Lens Cap

I HAVE been meaning to write to you for some time to congratulate you and your staff on *A.C.W.*, from which, since taking up 8mm. filming this time last year, I have gained an immense amount of know-how. Perhaps the best piece of advice came from your correspondent Peter Gaskell, when he described his modification to his Ising splicer (July). I copied his instructions and am delighted with the result.

One tip which may be useful to those who use lens hoods: I have a Bolex B.8 and never take the lens hoods off, but found that Paillard makes no lens cap to go over them, nor could I find a cap of the correct diameter until I came across the container of a "5 day chlorophyll Deodorant Stick" and discovered that its white plastic cover is the correct one for my lens hoods!

Looking forward to many more years of reading, and taking advice from *A.C.W.*
London, W.2.

PAUL HANSARD.

Window on the World

TWO years ago we took a trip to the Far East, where I exposed 1,000ft. of 16mm. Kodachrome—without a tripod. It would have been too much to have carted a tripod about in the crowded streets of Singapore, Hong Kong, Shanghai, etc., in addition to the H.16 with Pizar f/1.9 26mm. lens and Octameter viewfinder, Schneider f/1.9 wide angle, Som 75mm. telephoto and eye level viewfinder. The film—it runs to about 900ft.—would not be considered good by club standards, but to us and our friends it has given many enjoyable evenings. And that brings me to the article, "Is it Really Worthwhile?". I think that if a film gives pleasure to producer and viewer, showing them scenes they could not otherwise see, it is worthwhile, even though the cost here in Australia is high—over £5 for 100ft. of Kodachrome.

Do you use U.V. filters in England when filming in colour? Here they are essential for good results owing to very strong ultra violet light. But can you

tell me why, when using it with a tele lens, one still gets a faint bluish tinge?

For the past twelve months I have been taking 35mm. colour slides with a Leica 3G, but after reading *A.C.W.* I find the movie bug is starting to bite again, so when the price of wool rises, the Bolex will start rolling.

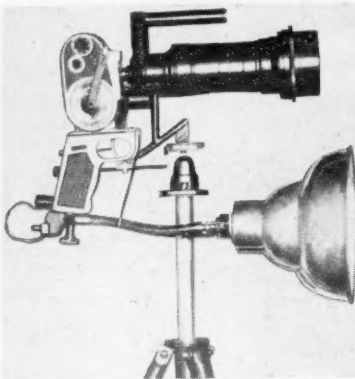
Tammin.
W. Australia.

R. A. CHRISTISON.

Yes, U.V. filters are commonly used here for long shots in colour. They reduce both haze in the distance and its blueness, but they cannot and should not eliminate the blue completely; it is there and contributes to the pictorial effect, as painters' impressions so often demonstrate.

8mm. De Luxe

THE EQUIPMENT illustrated is basically a Sportster which was badly damaged by sea water and was stripped and reconditioned. I made the parts that were too far gone, altered the camera speeds to 8, 12, 24, 32, 48 and 64 f.p.s., and fitted a quick winding handle which only needs the removal of the existing



Basically a Sportster. (See letter from Mr. Tex Martin, this col.)

retaining screw. The pistol grip was originally on an R.A.F. camera gun and can be removed in a matter of seconds. The trigger operates not only the camera mechanism, but a built-in switch in the grip that operates two photofoods on flexible arms, making camera and lighting unit completely portable and controllable by one hand.

The lenses are an f/2.5 Mytal, 1in. f/4 ex-R.A.F. and an 8in. f/4 ex-R.A.F., the last mentioned fitted to its own heavy tripod at the centre of balance. The camera can be quickly fitted to the lens! But since the latter obscured the viewfinder, I fitted a small periscope, using two prisms, and adjusted for parallax. (There are two critical viewfinders, one a fixture on the camera and one for use with the tele lens.) I have also made a magnifying critical focusing device for viewing through the camera gate when there is no film in it. As I do a lot of filming in the theatre, I have fitted two extensions to the lens spigot arms. They protrude slightly from the side of the camera and are a great help in the dark. I also have a remote control unit that rewinds and operates the camera by short wave transmitter and receiver and by magic eye (selenium cell).
Wolverhampton.

TEX MARTIN.

Film Costs

I HAVE read with interest the comments about film, its price and availability in Canada, by Mr. Roy Smith of Toronto. As the Editor noted, some

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Fountain Press



HOW TO PHOTOGRAPH BOATS

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E. S. Bomback



Gives full technical data on "Kodachrome", "Ektachrome" and "Kodacolor" and much practical advice on the control of lighting, colour balance and exposure. Deals with picture making in colour, the use of flash—both flashbulbs and electronic—and other light sources. Covers landscapes, portraits, still life, and many other subjects.

Chapters on projecting transparencies, processing Ektachrome film, and on colour prints, plus advice on the handling and storage of colour films, transparencies and prints. 8½ x 6½ in. 112 pages. 50 full colour pictures. 15s. (post 1s.).

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The object of this book can be stated quite simply. The first section presents the fundamental principles of colour reproduction by photography, television and printing.

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The whole technique of flash photography. Besides practical applications the author gives many details and explains the working of modern equipment used by both the amateur and professional worker. Sections on: The Flash Bulb; Flash Guns and Accessories; Synchronized

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My experiences in

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Dr. Paul Wolff

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R. H. Bomback,
B.Sc., A.R.I.C., A.R.P.S., M.B.K.S.

The famous *Photographic Journal* can best describe this increasingly popular title: "... never, before the publication of this little book, has the British cinematographer been offered a really comprehensive record of the whole field of sound-film making and showing. Looking through the book, it is difficult to think of any aspect of cinematography that is not covered."

6½ × 4½in. 286 pages. 25s. (post 1s.).

**SPECIAL EFFECTS IN
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H. A. V. Bulleid,
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B.Sc., A.R.I.C., F.R.P.S., M.B.K.S.

A practical handbook, being the bound volume of Cinefacts Nos. 9-16. Sections include: Making a Story Film; Cine Stereo for Amateurs; Tricks with Movies; Processing Amateur Movies; The Animated Cartoon; Adding Sound to Movies; Filming in Colour; and Finishing the Film. 7½ × 4½.

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R. H. Alder



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This new and revised Edition explains how to create effective table-top photographs, and gives detailed descriptions of the more complex type of picture achieved by combination printing and other means. Glass-top work is also fully described, and there are sections on making greeting cards, and on colour. $8\frac{1}{2} \times 6\frac{1}{2}$ in. 128 pages. 35s. (post 2s.).

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puzzling economics seem to arise. This is partly due to Mr. Smith's omitting certain details.

8mm. Kodachrome in 25ft. rolls is available in Canada at a suggested retail price of \$4.85 (processing included), although it is possible on occasions to obtain it at prices below this. The price of \$7.00 for 16 rolls of 25ft. of black and white which Mr. Smith obtains from the States does not, I understand, include the cost of processing, which service Mr. Smith performs for himself. The approximate cost of processing 25ft. of black and white is \$1.00 (Kodachrome, \$1.95). The apparent cost differential is therefore not as great as would first appear. The demand for it is very limited.

I must also take him to task for stating that "8mm. black and white film is unobtainable in Canada." Admittedly it cannot be purchased universally at the corner drug store (chemist shop) as can Kodachrome—but at all good photographic stores Gevaert rolls of 25ft., packaged as anywhere else in the world, is available at a suggested retail price of \$3.85 (processing included). Also on sale is the other well known European film, Perutz, with emulsion speeds of up to ASA 400—cost \$3.85 (P.I.).

Both Kodak and Ansco have discontinued black and white 8mm. films, but in 16mm. a selection of emulsions is supplied by these two firms. In Canada Ansco also supply Anscochrome (E.I. 32) and Super Anscochrome (E.I. 100), and there is hope that in the near future we may see these emulsions on 8mm. film.

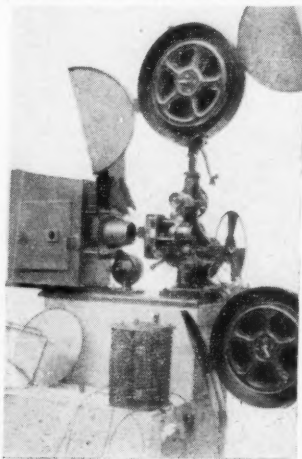
Thistleton, Ontario.

DEREK DAVY.

Vintage Equipment

SOME months ago in *A.C.W.*, Mr. H. J. Stretton admirably summed up the history of equipment available to the amateur cinematographer in the early part of this century. I went through almost the identical process he describes, beginning with a "dog" machine and following with a maltese cross movement 35mm. Pathe projector before the first world war. I adapted the latter to electric motor drive and arc lamp for home use on 220 volt d.c. This gave excellent results, and I can confirm that the Pathe colour films in those days were superb.

During 1914-18 I purchased every War Office



New lease of life for elderly 35mm. Pathe, converted for home use. (See letter from Mr. Donald Ames above.)

Topical Budget at 2s. 6d. each, until I had collected a complete history of the war. Two reel feature films could be obtained in good condition for £1, although I did hear of someone who bought a film which had evidently been misused. He wired, "Film received, please send sprocket holes"! I still have a hand-cranked 35mm. Ernemann which is brought out occasionally for an evening's entertainment with some pre-1914 films. My present equipment is a 9.5mm. Pathe 200B contained in a home-made projection box with air circulation ducts. This reduces noise and is convenient for storage.

Little Aston.

DONALD AMIES.

Title Backgrounds

LIKE Double Run, I dislike felt, plastic, wood and metal letters, so I make my own titles. I have made myself a small proscenium (about 12in. by 12in.), with coloured beaded curtains and pelmet, which provides an effective background. My wife slides the 7in. by 6in. titles from the back, while I film. Proscenium and camera are mounted on a black marble slab from an old washing stand, which I have fixed up in the garden. Distance from screen to card is 3ft. 3in., and I use a portrait attachment. Should any club or lone worker like to see the proscenium I should be pleased to send it to them, together with a short strip of film. It can be packed in a box 12in. by 12in. by 2in. and is quite light.

5 Granville Court,
Walmer, Deal, Kent.

W. T. EDIS.

Insurance Against Loss

I NOTICE that Query Corner frequently includes inquiries about films lost in transit. Perhaps this might be a way of avoiding loss: expose the first few inches of the film on a title card bearing your name and address. Since they will be on the leader, most of the frames will be fogged, but two or three should be sufficiently clear to enable the details to be read.

London, N.1.

H. G. HIND.

Generous

WHEN I made a request in Query Corner for 16mm. shots of jet planes flying in formation, it was with little hope of getting them, but how wrong I was! Within a few days of publication of our cine bible, a reel of film arrived from Mr. Stanley Swan of Middlesex. To my great surprise and joy, it contained several excellent shots of exactly what I needed, and comprised nearly 100ft. of Kodachrome, for which Mr. Swan requested only the postage.

I should be pleased if this letter could be published, both as acknowledgment to *A.C.W.* for its services and as a reminder to those who engage in the war of the gauges that, in spite of their moans, cine is a friendly hobby. Mr. Swan has certainly helped to prove that.

Southend-on-Sea.

ROY SALMONS.

Fine Service

RECENTLY I had occasion to write to Specto Ltd. for a quotation for repairs to my 9.5mm. Specto (a home conversion), 250 watt, 24 volt, mains motor. By return of post I received a provisional quotation and a note inquiring if I had suitable packing materials. Naturally I had not. Within a matter of days, I received a very well made carton, together with every item one needs for dispatching a projector, even down to string and adhesive tape. Receipt of the projector at the works was promptly acknowledged, with a check list of the items I had sent. If all manufacturers were as efficient as Specto and as reasonable in their charges, 9.5mm. would receive more attention.

Edwalton.

PETER V. HOOK.

Make Your Own Music Concrète

You can do quite a lot with simple equipment

By STUART WYNN JONES

If you ever saw Alec Guinness in *The Man in the White Suit*, you will almost certainly remember the sound sequence which accompanied the shots of the chemical apparatus in the laboratory during one of the inventor's experiments. This sound track, consisting of bubbling and hissing noises arranged in a strong rhythmic pattern, was used throughout the film to symbolise the irrepressible ideas of the inventor. When you listened to it, you were—believe it or not—actually enjoying an early example of *Musique Concrète*.

This somewhat frightening term is used because the technique has been very largely developed by Frenchmen. It is called "concrète" as opposed to "abstract" music because it is all constructed from actual noise—recorded, distorted and re-arranged in various ways. Experts will take a poor view if you fail to distinguish between *Musique Concrète* and the *Electronic Music* developed largely in Germany, which is all built up from the tones given by a signal generator. Remember *Forbidden Planet*? That was electronic music.

The two techniques are being used quite a lot in film tracks. Over half the films shown at the Brussels International Experimental Film Festival earlier this year had synthetic sound tracks, so if you want to be in the fashion, you'd better get out your recorder, scissors and splicing tape, and see what you can do. *Concrète* music mixing is not difficult, and it's great fun. Don't be put off by the thought that the experts use enough special equipment to sink a battleship—you can do quite a lot with simple apparatus.

One Recorder is Enough

The sound track for *Raving Waving* was made with one standard 3-speed recorder. First of all, I recorded all sorts of sounds—especially those of fairly lengthy duration: taps running, pieces of paper being torn (incidentally, if you record the sound of a piece of sticky tape being pulled off the roll, it sounds just like a jet plane going past). I also recorded sustained musical sounds: chords on the piano and long notes on a viola and various noises such as alarm-clock bells and a stroke on the drip-tray of the kitchen sink! Yes, even the kitchen sink is useful for concrete music.

With a 3-speed recorder one can deliberately record sounds at the wrong speed so that the pitch is altered when the tape is played back at standard speed. An electronic wizard can also try various tricks with filters to alter the quality of the noises being recorded.

The tape was then cut up into lengths, each containing one sound, and these lengths were labelled and hung up by their trailing ends. Then the work of composition began. Various short lengths were cut off the long pieces and spliced together in a rhythmic pattern. It's best, by the way, to join the pieces of tape with

diagonal splices in order to avoid clicks as the joins pass the playback head.

As I joined the pieces together I kept a record of the rhythm and so on in musical notation, and from this "score" I was able to make a "dope-sheet" with camera instructions for shooting the visuals. *Raving Waving* is a cartoon—so I made the sound track first; but it would be possible to make a *musique concrète* tape to go with a live-action film by cutting the tape to match an existing picture. The short pieces of tape can be of any convenient length; the number of sounds per second is only governed by the amount of time you're prepared to spend on splicing.

Fiddling and Cheating

It is very tempting, if you can play a few notes on an instrument, to record some slow notes and then cut the tape into very short lengths and rearrange them into complicated bravura passages which would make your dear old music mistress pass out with delight; but in the middle of making all the necessary splices you sometimes think that it might be quicker to learn to play the darn thing properly in the first place. Moreover, when you do construct a passage of super-human speed and ingenuity, the ear is no longer able to distinguish the individual notes; they begin to form a complex sound.

An easier way of getting complex sounds is to superimpose additional layers of sound on the first recording. Most tape recorders erase the first recording when a second one is made; but it is possible, by putting thicknesses of paper between the tape and the erase-head, to add one or two extra recordings to form richer sounds, which can in turn be cut into short lengths and arranged in new patterns.

An Extra Recorder Helps

With one recorder you're limited to a single line of "melody." You won't be able to get contrapuntal effects; but you can always console yourself with the thought that film background music should be simple anyway. If you are able

(Continued on page 846)

MY PET GADGET by Stuart Wynn Jones

MAY I be greedy and have two pieces? First, a pair of scissors. To be used for cutting out (a) newspaper paros, which give one ideas for film-plots; (b) pieces of paper which can be animated by the cine camera; (c) short lengths of magnetic tape which can be spliced together to make a sound track, and (d) all those unnecessary frames which always seem to be left on either side of nearly every splice in amateur films.

Secondly, a point-brush (a good sable, please—preferably a chisel-shaped lettering brush). To be used when dry, for cleaning dust out of the camera; and at other times for lettering titles and painting cartoon cats and backgrounds.

With these two pieces of equipment—by scratching with the scissors on black leader and by painting coloured ink on clear leader with the brush—a chap like Norman McLaren can make a film without using a camera at all! What more can you want?

ALL THE LATEST EQUIPMENT

The A.C.W. team of technical experts and photographers brings you a remarkably comprehensive survey of the new apparatus shown for the first time at the world's largest exhibition, Photokina, held in Cologne. It should be noted that it is not just a catalogue—rather it is offered as a full report, with critical comment, on current trends. *Printed*

with the information it gives, you'll be as up-to-date on cine equipment as it is possible for any one man to be. News of notable advances in 35mm. equipment is also given, for professional design often influences the amateur, and we have many 35mm. enthusiasts among our readers. A second full instalment will be published next month.

THERE were few surprises at this year's Photokina, held in Cologne. Although there were signs of vigorous developments in the products of the narrow-gauge equipment manufacturers, there was little that was completely new or original. The most striking feature was the trend towards automation, both in still and cine cameras as well as in laboratory (D. & P.) gear and even cinema projection. Most manufacturers of cine cameras showed at least one model with a fully or semi-automatic coupled exposure meter. The designs of the European manufacturers were on the whole basically similar, mainly due to the fact that the meter movements were made by the same manufacturer (Gossen).

In projectors the trend towards low-voltage light-sources, particularly the new integral mirror 8 volt 50 watt lamp, which was shown by Philips, Osram and Radium, was most evident; the 12 volt 100 watt flattened filament lamp by these firms is also being incorporated in several new machines. They were also showing lamps with a new type of base, known in America as "Tru-focus," which is similar to that used in some modern radio valves.

On the sound side several manufacturers were showing various versions of tape "coupler" and loop synchronisers, including two for perforated tape. A number of stripe machines were in evidence. A complete sync. taking and reproducing system for amateurs utilising a tape recorder was also on show. This was a development of the Bauer "Tonkoppler" demonstrated at the British Photo Fair 18 months ago.

Home Striping

One original development was a prototype apparatus intended for home striping of 8mm. film. Using specially slit magnetic tape which is cemented to the film base with a special cement, it is reasonable in cost, and could prove a boon to users who want quick results. It is interesting to note that, at least in Germany, the laminating process of striping, in which the magnetic material is in the form of a thin, narrow tape which is cemented to the film, seems to be supplanting the older method of striping by extrusion of magnetic particles in paste form on to the film. The advantages claimed are a greater evenness in thickness, and, most significant, width, i.e., a straighter edge, which is important in avoiding background noise.

In the field of professional film presentation there were two new interesting developments: a new light source for theatre projectors by Philips, utilising a very small pulsed mercury arc lamp, which makes it possible to dispense with a projector shutter, and a completely new film presentation system, demonstrated in a hemispherical auditorium called a "Cinetarium." In this the spectator is virtually surrounded with an image on a screen subtending 360 deg. horizontally, and stretching from the floor to the ceiling. It is intended that spectators will sit in swivel chairs so that they are able to view the scenes all around them. The whole image is produced by only one projector, and is accompanied by multi-track stereophonic sound.

New lenses on show for professional use (if only because of the price) ranged from the sublime—a 5.7mm. $f/1.8$ Kinetip, with a taking-angle of 113 deg. for 16mm. use—to the fantastic—an Astro 2,000mm. $f/10$ ($1\frac{1}{2}$ deg.), which can be used for negative sizes from 16mm. to 2 $\frac{1}{2}$ in. square.

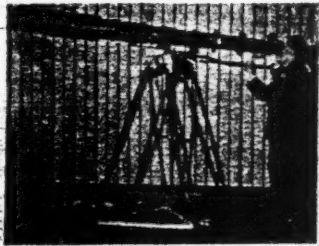
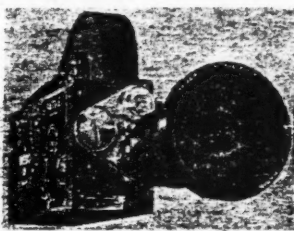
Sign of the Times

Altogether 526 exhibitors from 16 countries (176 of them foreign, including 18 from Britain) were participating in the show, an increase of about 15 per cent. over the last exhibition held in 1956. The exhibition was spread over eight halls having a total area of over 700,000 sq. ft., a formidable amount as those who tried to see everything in one or two days soon found out! The show was first organised in 1950, and has been held in Cologne every two years since 1952. Its main purpose is to let manufacturers show their new products to dealers and clients from all over the world.

It is perhaps a sign of the times that most of the cine manufacturers concentrated on two classes: 8mm., and the semi-professional (i.e., educational and industrial 16mm. market). Only one manufacturer showed 9.5mm. equipment, and even this firm had mainly 8 and 16mm. equipment on display. However, a number of the French projectors exhibited are also available in 9.5mm. versions.

In the following survey the originating firms are listed alphabetically, and where appropriate the British agents are mentioned. Products are

From the sub-time (5.7 $f/1.8$ Kinetip, here shown on 16mm. Pathe Webbs) to...



the fantastic (2,000mm. $f/10$ Astro-Telastan mounted on a 2 $\frac{1}{2}$ in. square 16mm. Arriflex). See col. 2 above.

listed under the sub-headings: cine cameras, projectors, sound systems, lenses and accessories. We have tried to make the review as accurate and comprehensive as possible. Prices are quoted in DM and are those current in Germany. £1 is approximately 11.65 DM; however, duty at 50 per cent. *ad valorem* on c.i.f. value (landed charge before duty), plus Purchase Tax on the U.K. price to the retailer (on articles like cameras, optical goods, film, etc., but not projectors), is charged on all goods imported into Great Britain; but some of the more expensive equipment cannot be imported at all, or only in minute quantities for professional use. An accurate estimate of the cost of a given article in Britain is therefore very difficult, but is very roughly 50 to 100 per cent. above the German prices quoted.

In some cases when the German price has not been available, we have had to quote the retail price in the country of origin, or the f.o.b. (free on board) price, which is the manufacturer's basic price before freight and insurance costs are added. (On top of this come the Customs charges and tax, and the wholesaler's and/or retailer's profits.)

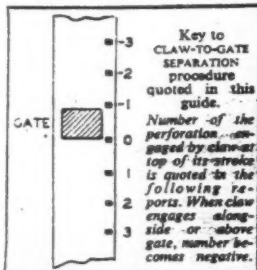
In many cases models shown were only prototypes specially rushed into some sort of shape for the show, and the manufacturers themselves were unable to quote a price for the production article;

it is possible, therefore, that the production model will differ in detail from those exhibited at the show and described below. Most of the equipment described is entirely new, or not available on the British market at the time of writing, but a number of the articles described may be already on sale by the time this report appears.

A few words of explanation of some of the terminology employed are perhaps desirable.

CAMERAS: Those referred to as having a "fully automatic coupled exposure meter" employ a device which sets the required aperture automatically once the film sensitivity and the taking speed (where appropriate) have been pre-set. No further setting or transferring is required. "Semi-automatic coupling" refers to cameras which, after the above-named constants have been set, require the user to undertake some further action, e.g., line up two pointers in a viewfinder. "Uncoupled" (but built-in) exposure meters require the user to transfer a reading from a scale to the lens aperture ring, and unlike the other two cannot conveniently be used while looking through the finder, i.e., during shooting.

PROJECTORS: The motors driving these fall into two broad groups: *Induction* or *Asynchronous*, which drive at a given fixed speed (but several can be obtained by using various pulleys for the



Stand by Stand

Adox, (British agents: Luminox Ltd., 45 Belzize Lane, Hampstead, London, N.W.3.)

FILM

On the cine side Adox were showing their U17 (40 ASA) reversal film in various packings for 8mm. and 16mm. There is no news of either this or the N17 16mm. negative being available on the British market for the time being.

In the field of still colour photography, Adox introduced their new reversal film in both roll and miniature film versions. The speed is 25 ASA, but it is not likely to be available in Britain for some considerable time. However, the negative colour-film NC17, first shown at the British Photo Fair, will be available in roll and miniature form from the beginning of 1959.

A new introduction was the Adox Colorfilm colour developer (for the NC17 film), which is supplied in a small bottle, and is diluted to make up various volumes according to demand, the development time being adjusted accordingly. It can only be used once, but as it is relatively cheap (packing of 5 bottles: 6 DM, or 1.20 DM per bottle), it is no hardship to throw it away after use. This, too, will be available early next year.

Agfa, (Deer Park Road, Wimbledon Factory Estate, Morden Road, London, S.W.19.)

CAMERAS

Movematic I. This double-run 8mm. camera with fully automatic exposure setting was being shown for the first time. Unlike most of the other cameras on show, it utilizes a photo-resistant cell for its operation, and requires two cadmium batteries to furnish the motive power for the automatic mechanism. These are Mallory RM625/1-34 v., which have a life of approximately 2 years. The automatic mechanism comes into action only when the release button is pressed, and needs a second or so to settle down; it is therefore necessary to depress the release by only a small amount before one begins filming.

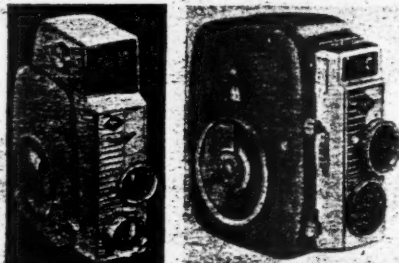
Provided there is enough light to film, and that the automatic mechanism is in order, a pointer becomes visible in the viewfinder. It is then O.K. to depress the release fully and commence filming. The film sensitivity is adjustable from 10 to 27 deg. DIN (11 to 400 ASA) in 1 deg. DIN steps by a ring surrounding the photocell, and if required the auto coupling can be dispensed with and the aperture set by hand by means of the lever near the top of the front plate.

The camera has a large, life-size viewfinder with automatic parallax

correction down to about 90cm. (3ft.), operated by a sliding mask coupled to the focusing ring of the lens, a 13mm. f/1.9 Movestar. It will focus down to 19cm., and has a click-stop at the fix-focus position. The finder has a built-in mask for a tele adapter, while a negative lens can be affixed to the front to match the field to the w.a. adapter. The automatic iris works behind the lens, and consists of two superimposed plates having right-angled openings, and giving a diamond-shaped aperture.

The camera has only one speed of 16 f.p.s., and single frame. Provision is made for a wire release. The motor runs about 6ft. of film and then cuts out. Internally the camera is similar to the 88L, and has a sprung claw engaging perforation 1 and spring edge guides at the exposing edge of the film. Price: 480 DM.

Also on show was the already introduced Movex 88L. This double-run 8mm. cine camera with coupled semi-automatic exposure meter is fitted with a 13mm. f/1.9 Movestar, focusing down to approx. 26cm. (8in.), and having an "infinity stop" which holds the lens focused at infinity unless a catch is depressed to free it, thus removing the danger of inadvertently moving the focusing ring and converting it into a fixed-focus camera when required. We would have



Far left: Agfa Movematic I double-run 8mm. camera with fully automatic exposure setting; Agfa Movex 88L with coupled semi-automatic exposure meter.

drive), and are very suitable for sound attachments. But they do not readily lend themselves to the "Tonkoppler" or "Synchronmat" loop synchroniser system of synchronising film with a tape recorder. The *Universal* or *Series wound* motor is ideal for these. It is not quite so suitable for stripe attachments as the speed is liable to vary during use. A large range of speeds is obtainable. Another possibility, almost universally used for 16mm. sound-projectors, is the electrically (or sometimes mechanically) governed motor. This is suitable for stripe attachments and some types of tape synchronisers.

As readers will have noted from a number of our recent articles, maximum picture steadiness (particularly on 8mm. apparatus), is obtained when the camera and projector have the same gate-to-claw separation. Whenever we were able to ascertain this, we have included the information in the specification. We have adopted the American Standards method of doing this, in calling the perforation at the lower edge of the gate "0," the one below this "1," etc., and quoting the number of the perforation engaged by the claw at the top of its stroke. When the claw engages alongside or above the gate, the number becomes negative.

As most 8mm. projection is of original reversal

film, the front part of the projector (and, of course, camera) gate should be fixed and the rear half sprung, so that differences in the thickness of the film stock do not influence the focus. Where this arrangement is *not* used, we have remarked on this in the specifications. The matter is less critical in 9.5mm. and 16mm., as dupes or prints from negatives may be shown in similar numbers to reversal originals.

As already noted in our recent article on projector light-sources, low-voltage lamps are relatively more efficient than high-voltage types, particularly in 8mm., as it is impossible to collect all the light from a large, high-voltage filament and squeeze this through the gate. Comparison of projectors should not, therefore, be made purely on a wattage basis.

The majority of projectors on show were made for operation from a.c. supplies only, as d.c. is now becoming rarer than in the past. Some of the continental machines were designed for a maximum voltage of 220 volts. On our more usual 240 volt supplies this would lead to serious over-running of the lamp, with a very much shortened lamp life (a 6 per cent. increase in voltage cuts the life by half!), but there is a good chance that machines exported to this country will, in fact, be suited to the higher supply voltage.

thought it better had the stop been provided at the hyperfocal distance at the maximum aperture (approx. 9m.), which is the usual setting for fixed-focus lenses (and is used with the Movematic). In this way objects as close as about 14ft. would have been sharp at full aperture with the lens locked, instead of only at 28ft.

The exposure meter follows the usual semi-automatic practice with an iris over the photocell coupled to one in the taking lens. The meter pointer is made to coincide with one visible in the viewfinder pre-set according to film speed (12 to 21 deg. DIN, 12 to 100 ASA). Only one filming speed of 16 f.p.s. and single frames are provided for. Film transport is by a sprung, non-retracting claw, engaging the film in perforation 1.

A large roller is positioned in the film path above the gate, and this has room to move sideways against spring tension for a fair distance, thus isolating the supply reel from the gate. A rubber-covered post is situated below the gate, but this is not sprung. The footage counter is driven off an arm resting on the supply reel. The gate latches open for threading, and is then held in position by a sprung catch. A pin on the door depresses this when the door is closed, thus automatically closing the gate should this have been forgotten by the operator. Price: 360 DM. (£54 17s. with E.R.C. in G.B.).

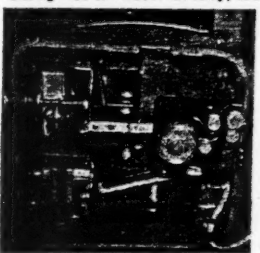
PROJECTORS

Movector F8. This new projector, available within a short time in Germany, will replace the E8. Like this machine, the F8 has a series motor, but is novel in incorporating a centrifugal governor which varies the make-and-break interval across a resistance in the motor circuit. The governed speed is 18 f.p.s. The projector utilises the new 8 v./50 w. ellipsoidal reflector lamp, and is adjustable for 110, 125 and 220 volt mains. It accommodates 4000-teeth and is fitted with a 20mm. f/1.4 Movenar projection lens. Only one sprocket is incorporated in the design, the film meeting this twice on the way to and from the spools.

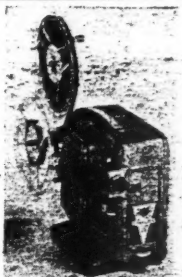
The parallel-opening gate has a sprung pressure-plate at the front, and sprung edge-guides. The twin claw engages perforations 1 and 2, and is over-pitched so that normally perforation 2 engages, 1 only coming into action in the event of perforation damage. Price: 340 DM. A version with a built-in loop synchroniser is also available, and is described in the section on Sound Equipment below.

Sonector 8: this is a rather more elaborate machine which, with a couple of accessories, can be used either synchronised to a tape recorder via a coupler, or as a stripe machine, as described below. It utilises an asynchronous induction motor giving a speed of 18 f.p.s., has the 8 v./50 w. reflector lamp and is fitted with 4000f. arms and a Movenar 20mm. f/1.4 lens. The two sprockets are unusually large (24 teeth), and the film path is unusual in that it not only has sprung edge-guiding plus fixed guiding at the gate, but also some distance above and below it. This should overcome any tendency to side play. The gate hinges forward 45 deg. for cleaning, has the sprung pressure plate in the back, and optical framing. The claw engages perforation 2.

The intermittent has a fairly quick pull-down time, using a 3 x 50 deg. shutter. Provision is made for reverse running with or without the lamp, and



Movector F8 with built-in loop synchroniser



Agfa Movector F8 with 8 v. 50 w. lamp.

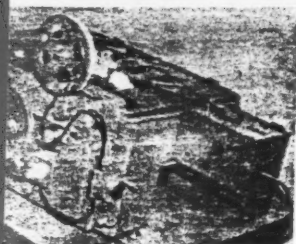
all the functions including motor rewind are controlled from one central switch. The projector is suitable for use on 110, 130, 150, 220, 240 and 260 v. a.c. supplies. Price: 530 DM.

SOUND EQUIPMENT

The Movector F8 is also available with a built-in loop synchroniser. Unlike the majority of such machines, the position of the loop-controlled arm is here used to vary the spacing of the governor contacts, and thus vary the film speed by influencing the relative make-and-break times. The lamp has to be switched on by hand. This version should be available in Germany by the end of the year. Price: 420 DM.

A synchronising attachment for the Sonector, known as the Synchro-Vex, will very shortly be available in Germany. It is of the tape-driven commutator type, working in conjunction with a commutator or switch inside the projector. Only an electrical connection between the synchroniser and projector is necessary. The device works equally well for 3½ and 7½ in./sec., and incorporates automatic starting of the projector, including switching on the lamp. Price: 176 DM.

A stripe adapter for the Sonector—the Sonectee—is also available. It forms a base for the projector, which is



Agfa Synchro-Vox and Sonector.

stood on top of it and connected to it by a cable. The film is led from the gate via a loop to the Sonector, where it is smoothed by a film-driven flywheel and then passes on to the lower sprocket, which furnishes the motive power to pull the film through the sound head.

The record/reproduce head is placed just before a heavy flywheel at the proposed international standard distance of 56 frames ahead of the picture gate, with the erase head immediately preceding it. There are separate inputs and volume controls for microphone (dynamic) and radio or pick-up, and level monitoring is by a glow-tube. Piano-key switches are provided for recording and play-back. The reverse running ability of the projector is a great help in correcting errors, though the sound gate must be latched open before this can be done. Still, this is easily accomplished.

The device does not include a power amplifier stage or a loudspeaker, and has an output of 1 v. at med.-high impedance for connections to the P.U. sockets of a domestic radio set or an amplifier that may be available. The frequency response is said to be ± 3 db between 50 c/s and 7 Kc/s. A demonstration film showed quite reasonable sound quality, perfectly adequate for most needs. Price: 465 DM.

TAPE

Agfa showed magnetic tape on a new type of base, "pre-stretched polyester." Two types, long-play PE31, and double-play PE41 were on show. The latter is so thin that a reel will hold twice as much double-play as standard tape. Nevertheless, its strength is said to be equal to that of steel, and it is almost impervious to temperature and humidity variations, particularly important to ensure that sync is kept on various automatic sync. devices.

In manufacture, the plastic material is stretched in both directions until an optimum stretch and tear-resistance is achieved. Production has only recently commenced following the building of spacious new works at the Leverkusen factory. The base has a thickness of 20 and 15 μ for the PE31 and 41 respectively (compared with 40 μ of the older standard acetate base), with a tolerance of $\pm 2\mu$. The coating is made with a new binder which dries with an extremely hard surface, and is said to give the tape very good resistance to abrasion and wear.

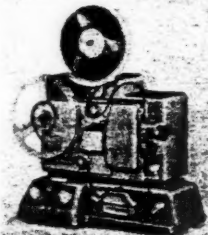
The total thickness of the coated tape is 35 and 25 μ for the two types respectively, compared to 55 μ for the standard acetate tapes. The tape is unaffected by extreme heat or cold, and is said to be workable up to 200 deg. C. (the base melts at 220 deg. C. compared to 60 of P.V.C.-based tapes).

In a demonstration a recorded loop of tape ran continuously through acetone

cooled to -90 deg. C. (-130 deg. F.), hot soap solution at +90 deg. C. (+194 deg. F.) and hot air also at +90 deg. C., the reproduced signal being constantly played back over a loudspeaker. The tapes are said to be about ten times less sensitive to humidity variations than acetate-based tapes, and to have very smooth overload characteristics, with at least 9 db in reserve (for 5 per cent. distortion). The coercivity is quoted as 300 Oersted.

FILM

Agfa also introduced a new type of reversal colour film in the usual 8 and 16mm. packings, known as Agfacolor CT 13. This is for the time being available in daylight type only, and has a speed of 13 deg. DIN/16 ASA. It is distinguished by greatly increased resolution and fine grain, and the older type of Agfacolor, with better colour rendition. The sample demonstrated appeared to have a slight tendency to orange, but this may have been due to the taking conditions. For the time being it is not likely to be available in Great Britain.



Sonector 8 with Sonector strips attachment.

Angenieux, (British agents: Rank Precision Industries, Mortimer House, 37/41 Mortimer Street, London, W.1.).

LENSES

This well-known French optical firm were showing their L2 and L7 zoom lenses for 16mm. Both of these have been available for about a year in Paris, but are new to German and British markets. Both have a maximum aperture of f/2.2, and focal length variable from 17 to 68mm. They differ in that the L2 version is meant for reflex cameras such as the Arriflex 16, Bolex H16 Reflex, Cameflex, Camer Reflex (8mm.) and Pathe Webó, and is therefore not fitted with a separate viewfinder.

The L7, on the other hand, with, normally, a standard C mount, has a reflex finder arrangement, which is novel in that it has a small ground-glass circle in the centre of the field so that focus can be set by eye. This we believe to be novel in zoom lenses, as other designs had no "real" image and were arranged to look sharp however the focusing ring was set, as the outside field of this lens does also. The construction utilises 11 lens components in the taking part of the lens, plus another seven in the finder system. Price: 1,380 DM.

Also on show was a new set of lenses for professional 35mm. cinematography: the LBT and LAL zooms, having apertures of f/2.2 and f/3.5 respectively, and focal length adjustable from 35 to 140mm., and a 14.5mm.

wide-angle f/3.5 lens having a taking angle of 84 deg. Also new was a zoom for television Vidicon use, the LAL, with an aperture of f/2.2 and focal lengths adjustable from 20 to 80mm. The LBS for VistaVision or television Orthon cameras, 50 to 200mm. f/2, was also displayed, as were a number of special purpose lenses for 16mm., such as a 15mm. f/1.3 wide angle, and a 25mm. f/0.95, which have already been seen in this country.

Ansoo, (British agents: Colour Centre (Cine) Ltd., Farnham Royal, Slough, Bucks.).

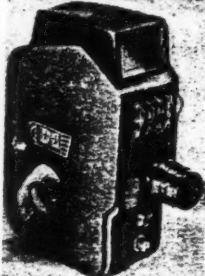
FILM

Ansoo were demonstrating their fast Anacochrome and Super Anacochrome films in 16mm. format, which are now becoming available for professional use only in Great Britain, in both daylight and tungsten versions. These colour stocks have a basic speed of 32 and 100 ASA respectively, which can be almost doubled or even trebled by extended development without sacrificing too much colour-balance or grain. A great advantage for some users is that processing can be carried out by the user. This is important for some Government research departments where security is involved, and for TV stations transmitting colour newscasts, due to the saving in processing time. The demonstration on the stand included the projection of a colour newscast of one such station, of a big oil fire, and was most impressive. Unfortunately we were unable to ascertain whether there is any likelihood of these materials becoming available to British amateurs. The difficulty is the restrictions on dollar imports.

Apparate & Kamerawerk, (British agents: Pullin Ltd., Electricin House, 93-97 New Cavendish Street, London, W.1.).

CAMERA

Akinemat. This fully automatic exposure-setting double-run 8mm. camera marks this firm's debut in the cine field, though they have been manufacturing still cameras for some time. It is distinguished by a large viewfinder, in which both the aperture set and the nearest usable distance are visible. If required, the automatic mechanism can be disconnected and the aperture set by hand. Film sensitivity is adjustable from 12 to 100 ASA. The lens fitted is a 13mm. f/1.9 Xenoplan, and converters for both wide angle (6.5mm.) and tele (25mm.) will be available. The camera has three speeds—8, 16 and 32 f.p.s.—as well as



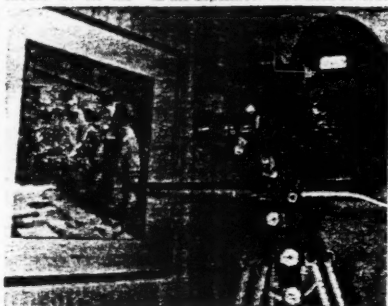
8mm. Akinemat, fully automatic exposure setting.

single frames and continuous run. It incorporates a handle made of metal strips which fold out from the front and back of the body to give a convenient one-handed grip.

The camera features a non-removable book-form gate and a non-retracting sprung claw operating in perforation 1. The footage indicator is operated from the film on the supply spool, and the motor is fitted with an automatic cut-out. The viewfinder shows the fields of view of the three focal lengths available, but in addition shows some of the surrounding field, thus making it easier to follow moving objects as one can see them approach before they will register in the camera.

The camera shown was only a prototype, but it should be on the

Tegea 5-7mm. f/1-8 lens, shown mounted on a Cameflex camera, takes in all of 22 x 16in. photograph only 12in. in front of it; Argus M-500 8mm. projector and its Super Tru-flector low voltage lamp (in socket).



market in mid-1959, and it is hoped that it will be imported into Britain. Price: approx. 500 DM. (about £50). **Appareils de Precision Kinoptik, 31-33 Rue de Tlemcen, Paris, XX^e. LENSES**

Undoubtedly the most impressive exhibit on the stand of this old-established French optical firm was their new super-wide angle lens for 16mm. cameras, a Tegea 5-7mm. f/1-8 colossus having a taking angle of 113° deg. In the illustration it is shown mounted on a Cameflex camera, and all of the 22 x 16in. photograph (only 12in. from the front of the lens) is included in the field of view. The lens is available in a number of mounts, including a standard C mount for the Webo M, for instance. At full aperture the depth of field is 20in. to ∞, and at an aperture of f/11 everything is sharp from the front glass on!

The appearance of the front of the lens is a little peculiar, showing shimmering grey striations in all but the centre. This is done to reduce reflections. The construction of the lens is such that the rays passing through the very large front lens are bent so sharply as to pass through the small clear central portion of the second lens, which is clearly visible in the photograph. The lens has a total length of 160mm. (6 1/2 in.), a maximum diameter of 86mm. (3 1/2 in.) and weighs 900 gr. (2 lb.). Price: 1,580 DM.

Argus, (Division of Sylvania Electric Products Inc., Ann Arbor, Michigan, U.S.A.). PROJECTOR

Displayed on this stand was the 8mm. Argus M-500 projector, which is of special interest as it utilises a development of the Sylvania Tru-focus lamp, known as the Super Tru-flector.

This is a low-voltage compact filament lamp (21.5 v./150 w.) with a built-in concave reflector mounted in the correct position behind the filament inside the glass bulb.

This construction has been made economically and practically feasible only by the introduction of the moulded pin-type all-glass base, as with this construction the bulb-envelope has no "neck"; the base-plate with the assembly of filament and reflector mounted on it is simply sealed to an open-necked bulb by automatic machinery. This would seem to be the first time that a U.S. manufacturer has followed the European trend towards low-voltage projection lamps, with all the advantages as explained in the September 1958 issue of A.C.W.

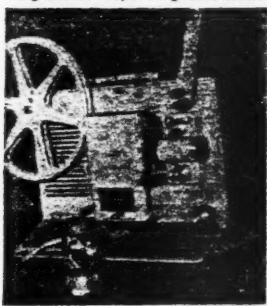
tage of obtaining the far superior film quality.

Also on show was a 35mm. Arriflex IIa, showing slight modifications from its predecessor. A fully blimped version with 1,000ft. mag. was also shown, as was a model meant for Cinemascope and similar processes, having an ultra-squeezing lens in the viewfinder to correct the image for the compression of the taking anamorph, with a slightly larger gate aperture necessary for these systems.

Astro-Gesellschaft Bielefeld & Co., Berlin-Friedenau, Schmargendorfer Strasse 32.

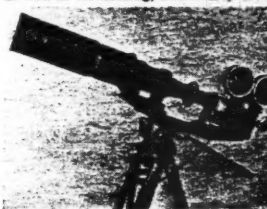
LENSES

This firm has long specialised in "Big Bertha" super long-focus lenses



for a number of negative sizes. As is usual with most lenses in this class, they can be used on a number of cameras simply by exchanging the fitting ring. New lenses shown included Astro-Telastan 200mm. f/3.5 and 500mm. f/4.5—triples for negative sizes up to 2 1/2 in. sq., price 700 DM and 1,900 DM respectively—and newly computed Astro-Tachars 125 and 150mm. f/2.3 (565 and 760 DM) and 150mm. f/1.8 (930 DM); the 125mm. will cover up to Leica size and the other two up to 2 1/2 in. sq., but all of the lenses shown can also be fitted to all gauges of cine cameras, from 8mm. to 35mm.

The longest lens on show, a 2,000mm. f/10 Telastan, had been introduced at the previous Photokina, but still collected large crowds of admirers. It was shown mounted on a 16mm. Arriflex (see illustration; other lenses include a 1,000mm. f/6.3 Fernbild on a 35mm. Arriflex, and a 800mm. f/5 on a Cinephor). With such large focal lengths some sort of reflex arrangement is necessary for focusing as well as viewfinding, and if they are



800mm. f/5 Astro-mounted on 35mm. Cinephor.

The projector is built into one half of an aluminium carrying case, and has 400ft. reel capacity, f/1-5 lens, reverse run and stills (with heat-filter automatically brought into operation) and enclosed reel drives. The motor rewind is put into operation by pulling the upper sprocket forward. The lamp and the asynchronous motor are controlled separately by sliding switches. The intermittent has a twin claw with a quick pull-down cycle (shutter has a narrow cut-off angle) which engages in perforations 2 and 3. 2 doing the normal transport with the lower claw under-pitched so as to come into operation only on damaged film. Both sprockets have 16 teeth with fixed roller-type retainers.

Arnold & Richter, (British agents: Rank Precision Industries Ltd., Studio Division).

CAMERAS

A large assortment of 35mm. and 16mm. Arriflex cameras for professional cinematography were on show. Included were a new blimped studio-camera with an electronic viewfinder. In this the light to the reflex viewfinder eye-piece is split, and part of it led to a Pye industrial TV camera mounted on the side. The rest of the light travels through to the eye-piece in the normal way. The camera can be used with any desired number of remote monitors, which are slightly modified television sets.

There are many fields of operation, e.g., teleplay production, where a remote monitor is a great help. Thus it is possible to use a number of such cameras to cover action continuously under the supervision of a director who can see the output of each camera on a monitor. Normal television technique can be followed, but with the advan-

used on a camera that is not a single-lens reflex they have to be mounted in some sort of reflex housing.

Barakuda Gesellschaft, Hamburg 20. **SOUND EQUIPMENT**

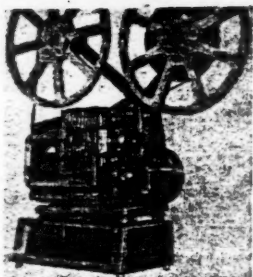
This firm showed their Barakuda Synchroner system. It is not new—in fact, it was one of the first to be commercially available, and was originally manufactured for the Bauer Pantlux projector. It is mentioned here only because it was the only tape-to-16mm. projector synchroniser in the whole show. It was demonstrated at Photokina working in conjunction with a Siemens 2000 projector. There is, of course, no reason why other projectors and/or sync. systems should not be used with each other, but it would appear that there is little demand for this.

The system is based on two units incorporating cam-driven change-over switches, one driven via a flexible coupling from the projector and one from an auxiliary capstan by the tape. Operation is similar to the commutator system used by other designs, and works on a phase-time comparison basis, the projector speed being controlled to follow that of the tape. A relay is included for automatically starting the projector when the tape is started, and is claimed to operate both with series and asynchronous motors. Tape speeds of $3\frac{1}{2}$ and $7\frac{1}{2}$ in./sec. can be used, thanks to a double capstan, and sync. corrections while running can be made by pushing one of the two buttons on the projector-driven unit, making the projector run slower or faster, as desired. Price: 210 DM.

Eugen Bauer GmbH, (British agents: Nebra Ltd., 77 Newman Street, London, W.1.)

CAMERAS

The Bauer 88DS and 88ES cameras, with provision for shooting sync. sound in conjunction with a tape recorder and a Tonkoppler first demonstrated at the Hanover Fair in the spring of 1958 (but not yet seen in Britain) were on show on the Bauer stand. (The sound system is further described below.) Like their parent 88D and E, they have a semi-automatic coupled exposure meter, the D and DS also having a turret carrying w.s. and tele adapters and the front elements of three positive viewfinders: the effective focal lengths are 6.25, 12.5 and 25mm, all at f/1.9, the aperture of



Bauer 16mm. P5 ("building block").

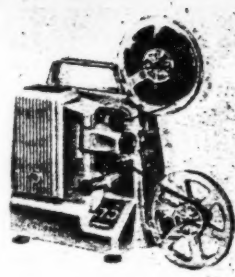
the basic Ronar Rodenstock lens. All four of the above-mentioned cameras have focusing lenses, but there is also a catch to hold the lens in a "fix-focus" position, so that the camera is ready for shooting at any time. The 88B with a fix-focus 13mm. f/1.9 Schneider Xenoplan was also on show.

All the cameras have operating speeds of 8, 16, 24 and 48 f.p.s., and single frame release, and are in many ways similar. The exposure meter details, however, differ in the turret and single-lens versions. All have sprung, non-retracting claws, engaging perforation 2. The gate and pressure plate are blackened to minimise halation, and are properly relieved in the picture area. We understand that all of the cameras are, or will be, available in Britain. Prices (with one lens): 88B: 447 DM; 88D: 840 DM; 88E: 510 DM; 88DS: 930 DM; 88ES: 636 DM; w.s. adapter: 110 DM; Tele adapter: 132 DM.

The 88C, without an exposure meter and with an interchangeable 12.5mm. f/2.7 Kinoplan was also exhibited, and costs 320 DM.

PROJECTORS

Bauer were showing their new P5 16mm. projector for the first time. This is a "building-block" projector, and is available in four versions. P5S, the silent version, has a low-voltage 13 a./250 w. lamp, asynchronous motor, with pole-switching for 16 and 24 f.p.s., interchangeable 2- and 3-blade shutter, built-in transformer, and special blower motor. The spool



Bauer T10.

arms have a 2,000ft. capacity, and the mechanism will give reverse run as well as motorised rewind. The twin claw engages perforations 1 and 2. The pressure plate is made of "resitex" plastic, for long life and kind handling of the film. Projection lenses in the range 35 to 75mm. are available. The case is die-cast and has a light-blue hammer finish. Like the other projectors in this series, it is meant for educational and semi-professional use. Price: 2,600 DM. The P5L is an optical sound machine, and can be had with a 5 or 15 w. sound output. Price: 3,300 DM and 3,600 DM.

Except that the lamp in this and the other sound versions is either 13 a./400 w. or 1,000 w./100 v. to choice, the mechanical part of the projector is similar to the silent version. The sound head can be built on at any time. The sound projectors all stand on top of their amplifiers, to which they are automatically connected by means of multi-way sockets in the projector base. It is only necessary to place the projector on the amplifier, slide it backwards and lock off. No loose cables are necessary, except the mains and loudspeaker leads.

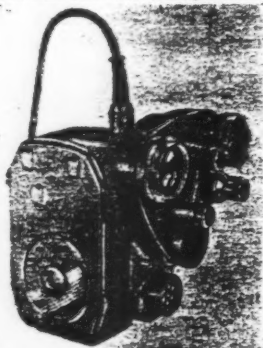
The P5T and P5M add respectively magnetic reproduction, and magnetic recording and reproduction to their functions. Prices are 3,600 and 3,800 DM. The latter will re-record from optical to magnetic track if required, and has superimposing facilities. Frequency response is said to be to 7 Kcs on optical and 10 Kcs on magnetic reproduction.

A silent version of the Selection II 16mm. arc projector, designed for laboratory review theatres and similar applications, was also exhibited. It, too, could be converted to sound. An important design feature is a maltese-cross intermittent motion, designed both for steadiness and for kindness to the film.

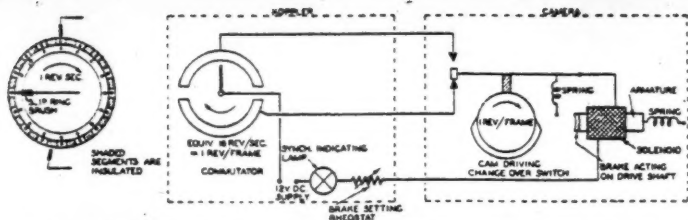
The Bauer T10 projector, already familiar in England, was on show together with two new Tonkopplers. For cinema use there is the U2 projector which can run 35, 55 or 75mm. film by easily interchangeable parts.

SOUND SYSTEMS

The Tonkoppler K is a small apparatus for post-synchronising 5mm. films in conjunction with the T10 projector. It is a simplified version of the model shown at the last British Photo Fair (TZ31), but without the automatic start arrangements, or the provision of correcting sync. errors from the Koppler. The Tonkoppler S is similar



For left:
Bauer
88DS;
other
model is
88ES.



Schematic of Bauer camera sync system

to the first model, but has the above-mentioned advantages and also facilities for sync. shooting in conjunction with the 88DS or ES cameras.

The principle is fairly simple and is based on a phase-comparison principle. The Tonkopplier consists mainly of a capstan linked to a commutator, acting as a change-over switch. The Kopplier is placed between the feed-spool and the magnetic head of any commercial tape recorder, and the tape is wound round the drum. (Two interchangeable capstans are available for $3\frac{1}{2}$ and $7\frac{1}{2}$ in. sec.). There is a similar commutator in the projector, driven by the mechanism. The whole arrangement works in a similar manner to that described in an article in our recent series on sound recording.

Alternate segments of each commutator are connected together to a slip-ring, and thence through the motor to the mains. Contacting the commutator segments are two narrow brushes positioned an odd number of segments apart, so that when one brush makes contact with a conducting segment, the other rests on an insulated one; i.e., a rotating version of a change-over switch.

The wiring is so arranged that a resistance is alternately switched in and out of the projector motor circuit, the phasing of the two commutators determining the time the resistance is connected. If the projector is running at the correct speed, the resistance will be in circuit approximately 50 per cent. of the time. Should the projector speed up, the resistance remains in circuit for a longer period of each cycle, so slowing down the machine, and vice versa if the projector speed drops.

Starting the projector in sync. is achieved by sticking a piece of metal foil to the back of the tape, and when this passes over a split roller on the Kopplers S or TZ31, it trips a relay which starts the projector.

CAMERA SYNC.

Camera sync. is achieved in a very similar way, but using an electro-magnetic brake in place of the resistance.

The camera contains a change-over switch driven from the claw, and changing over twice (i.e., "there and back") per frame. In addition, it has

an electro-magnetic brake, consisting of an armature which when energised presses a brake-shoe to the flywheel of the camera spring-motor. The brake winding is connected in series with the incoming supply. Wiring is also provided for starting the tape recorder automatically when the camera release is pressed, provided a recorder with a remote start control is used (e.g., some models of Grundigs, or Telefunken).

When the tape recorder is running, the tape-driven commutator changes over (there and back) 16 times a

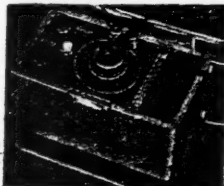
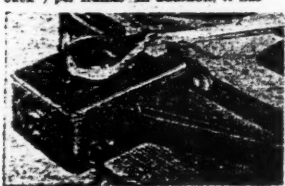


Tonkopplier linked with Bauer T10 projector.

second. As a result, voltage is applied alternately to each outer contact of the camera change-over switch. The camera spring-motor is set to drive the camera a little faster than 16 f.p.s., and when running the central contact of the switch completes the circuit when it is thrown over towards the contact energised by the Tonkopplier commutator. When current flows, the brake in the camera is energised, slowing it down.

However, as soon as the commutator or the switch in the camera changes over, the circuit is broken, and the brake releases again until the second contact changes over also. A calibrating resistance is included in the

L. to r.: Tonkopplier for 8mm. post-synch. in conjunction with T10 projector; Tonkopplier TZ31, a more elaborate version; sync. shooting with Bauer 88ES (with anamorph for wide screen) and Tonkopplers.



Kopplier, and this is so adjusted that the brake is on approx. 50 per cent. of the time. If the camera tends to slow down, the circuit is completed for a relatively shorter time, giving less braking to the mechanism. Similarly, if it should tend to speed up, the brake is applied for a longer interval in each cycle.

A lamp wired in series with the supply is used as a sync. indicator. When it is just flickering a bit, the camera is running in sync., but as soon as it starts showing large brightness variations, sync. has been lost and the camera spring must be rewound. To assist in this a small crank is available which fits over the winding key of the camera, and allows it to be wound even when running, provided that the camera is on a solid tripod.

As long as the sync. system is doing its job, the maximum possible deviation between the tape and film will not exceed ± 1 a frame, and as long as the tape does not slip or stretch, perfect sync. should be attained. To assist cutting, a clapper board should be used at the start of each shot.

For projection, the same Kopplier is utilised together with a Bauer T10 projector. This contains a similar change-over commutator or switch as the camera, and functions in much the same way, except that a resistance is cut in and out of the motor circuit instead of mechanical braking being used.

Editing requires care, but should not be particularly difficult. It should perhaps be stated here that if recorders with a remote start facility are used, then if the first scene of each run, i.e., start of each 25ft. is synchronised with a clapper-board, all the following scenes on that run will also be in sync.—useful when running rushes. If required, the recorder can also be run on its own when in the auto-start



positioned, by pressing a switch on the Koppier. This can be useful when identifying scenes with audible remarks, etc., but if this is done a new clapper mark must be put on for the next scene. The Koppier can also be used, like the T231 or the K for post-synchronising films shot silent.

In a demonstration film, sync. was kept quite well for most of the scenes, and the fact that a few that were slightly out was probably due to incorrect cutting, as they were interspersed among correctly synchronised scenes. The tone quality was adequate, but could have been improved by better microphone technique. The films were shown on a 2.27m. x 1.70m. beaded screen, and were very well illuminated by the Bauer T10 projector. There was plenty of light, too, for the wide-screen demonstration (3.40m. wide), but although the definition was adequate from the rear half of the hall, grain and unsharpness became evident nearer the screen.

One film demonstrated the ease of filming (with Bauer equipment of course), and contained a particularly good sequence showing the effect of varying exposure as seen through the finder of the camera (which has a semi-automatic coupled exposure meter), the exposure of the scene varying with the needle position.

ACCESSORIES

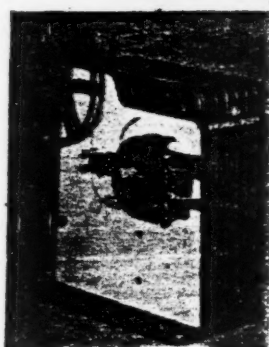
Also shown were the Bauer titler and splicer.

Beaulieu, S.A., 60 Rue Auguste Comte, Fontenay-s-Bois, Seine.

CAMERAS

Shown for the first time at an exhibition, though it has been available in France for about six months, was the new Beaulieu R16 reflex 16mm. camera. The reflex principle operates via a 45 deg. mirror attached to the reciprocating shutter, and has the dual advantage of giving a bright image in the finder telescope (with 10 times magnification), and at the same time allowing all of the available light to fall on to the film, as viewing takes place only with the shutter closed. The camera has a three-lens turret (standard C mount), 100ft. capacity, speeds from 8 to 64 f.p.s., single frame release and time exposures, frame counter and backward. An electric motor drive is also available. Price: 260,000 Fr.

Also on show were the M8 and T8 (President) 8mm. cameras. These are similar, except that the T8 has a twin turret and a zoom finder for lenses of 6 to 50mm. focal length. (The M8 finder shows the field of view of the 12.5mm. lens, with an engraved rectangle for the 35mm.). Both cameras utilise standard D mount lenses. They have speeds variable from 8 to 64 f.p.s., single frame cable release operation, and an adjustable eye-piece



Brumberger Model 150.

on the finder, as well as parallax correction. The standard lenses fitted are a 12.5mm. f/1.9 on the M8 and that plus a 35mm. f/2 on the T8. Prices: M8 50,000 Fr; T8 80,000 Fr.

PROJECTORS

The P8 projector has been available for a number of years, but now it has been equipped with the 8 v./50 w. reflector lamp, and the transformer has tapings for 110, 125 and 220 v. The 400ft. capacity arms are driven by spring belts, and the design utilises a single twelve-tooth double spaced (i.e., 16mm. spacing) sprocket, which the film meets twice. The front part of the gate is sprung. The lens fitted is a 20mm. f/1.5 Berthiot. Price: 67,000 Fr.

Brumberger, (Export agents: Cinaphot International Corp., New York 36, N.Y.).

PROJECTORS

This firm was exhibiting two 8mm. low-priced projectors on the stand of their export agents, Cinaphot International Corp. These were the Brumberger Model 150 made of metal pressings, having a spool arm capacity of 200ft., a 110 v./300 w. single contact lamp (T8), a single 16-tooth sprocket with fixed retainers, non-optical framing, fin. f/1.6 lens, asynchronous motor, and a rotary switch with separate positions for motor and lamp. Price: \$40. The Thunderbird Model 1500 was of similar construction, but was fitted only with a 110 v./150 w. (T8) lamp.

Also shown on the Cinaphot stand was the Baskon Automatic 500 projector. This is a low-priced sprocket-less machine, made of cast alloy. It also has 200ft. reel capacity, a 110 v./150 w. Tru-flector lamp (which needs no condenser), asynchronous motor and front-sprung gate, and operates

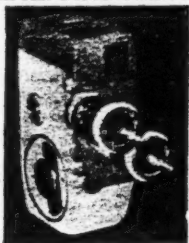
on voltages between 105-120. The twin claw engages perforations 3 and 4, and is driven by a spring-assisted cam. The barrel shutter has an equivalent cut-off period of approximately 30 deg. The lens is a Japanese-made IPT f/1.6, in a helical focusing mount. The rewind is set into operation by moving a knob. The gate is isolated from the supply spool by a sprung roller above the gate, and then passes through a relieved channel under the lamphouse to the take-up spool. Price: \$50.

This stand also showed the mylar-tape splicers Quik Splice and Butt Splice, recently described in A.C.W.

Bruner Camera Co. Inc., (British agent: J. J. Silber, Bedford House, 40-46 Lomb Street, London, W.C.1.).

CAMERAS

This Japanese company was showing their twin-turret 8T 8mm. camera. The lenses are in a special bayonet quick-change mount, and a large number of focal lengths from 6.5 to 75mm. are available. A ground-glass focusing device is provided, which operates with the lens that is not in the taking position. The twin-range zoom finder covers basically 6.5 to 25mm. lenses, but has built-in coloured masks to suit



Canon 8T.

it to the longer focal lengths, and to the wide-screen anamorph attachment; it also has parallax correction.

The camera has seven marked speeds in the range 8 to 64 f.p.s., provision for single frame and cable release, and lock-on run. The sprung, non-retracting claw engages perforation 1. The turret has a locking catch. The camera was exhibited fitted with 6.5mm. f/1.8 and 25mm. f/1.8 lenses. The normal lenses supplied are the wide-angle and a 13mm. f/1.4. Price: 800 DM.

Zeika Camera Co. Ltd., Tokyo, Sanwa Bld., 4-Chome, Ginza, Chuo-Ku.

On the same stand was shown a dummy model of a forthcoming Zeika camera. This will have a fan-shaped turret which will carry v.a. and tele-adapters, and will be available either with 9, 13 and 25mm. f/1.9 lenses, or 6.5, 10 and 25mm. f/1.9 or f/1.4 lenses to choice. Also shown was the Zeika Nominar zoom lens for 8mm. cameras with D mount. This has a maximum aperture of f/2.8, focal length variable from 13 to 38mm., and focuses down to 5ft. Price: 480 DM.

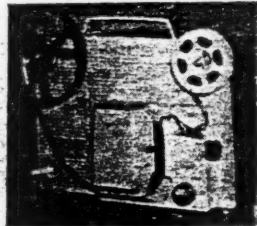
Central Photo Supply Co. Ltd., (British agent: Mayfair Photo Supply Co., Lords Met. Station, St. John's Wood Road, London, N.W.8.).

CAMERAS

Rondo 8 and Traveller 8T. Both of these cameras have the same body,



Beaulieu R16 reflex 16mm. camera; Baskon Automatic 500 projector (Brumberger) with 110 v. 150 w. Tru-flector lamp.



but the first is fitted with a single lens and the 8T is fitted with a triple turret carrying wide-angle and tele converters giving 6.5, 13 and 26mm. focal lengths, all fix-focus f/1.8. The lens is fitted with Waterhouse stops in front of basic lens, with half-stop intervals between f/2.8 and 8, otherwise one-stop intervals. The camera has a large-window viewfinder, and this has frames representing the fields of view of the various lenses engraved on the front glass. Only one speed of 16 f.p.s. is available.

The claw is of the non-retracting sprung type, working alongside the gate, i.e., engaging perforation No. -1, and the pressure plate is not relieved. The footage counter works off the film on the supply spool. The spring is wound by a fold-over handle, and will run 7ft. of film and then cut out. There is an accessory shoe on top of the camera to take an (uncoupled) exposure meter. Small quantities of this camera may be imported into Britain. Price: "8" 110 DM (about £12-13) "8T" 199 DM (about £25.) Meter 19-50 DM.

Christen, (British agents: Amplion Ltd., 175-179 Cricklewood Lane, London, N.W.2.)

CAMERAS

A new introduction was the Super Christen B3 MV 8mm. This is similar to the older B3 version, but is now fitted with a zoom viewfinder covering lenses of 6 to 35mm. It has a focusing eye-piece and parallax correction. The sliding twin-lens turret has no lock, but is held in position by a ball catch. The turret has standard D mount, and is normally supplied with 12.5mm, f/1.9 and 35mm, f/1.9 Berthiot focusing lenses. There are running speeds of 12, 16, 24 and 32 f.p.s., single frames, lock-on run, and backward against the spring with a handle giving four frames per turn, with the top spool driven to take up the slack.

The gate is curved, and the front part is sprung, though this may be altered on later models. The claw engages perforation 2. Film transport is assisted by a driven roller positioned above the gate. Small quantities should shortly be available in Britain. Price: In the region of £70.

PROJECTORS

A prototype of the Christen projector, using a 500 w. lamp, was exhibited. Later versions will probably use the internally silvered 8 v./50 w. It has a book-form gate and non-optical framing. It is unlikely to be imported into Britain.

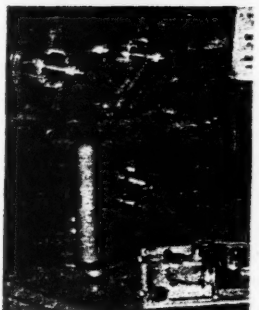
Cine-Gel, 29 Rue Armand Saffrey, Le Mans (Sarthe).

PROJECTORS

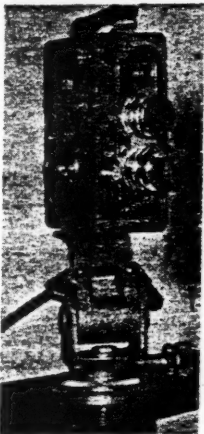
The Cine-Gel G8 8mm. projector has 400ft. spool arms, the 8 v./50 w. ellipsoidal reflector lamp, with auto-transformer adjustable to 110, 120, 130, 200 and 220 v. mains, a 20mm. f/1.5 Cinestar lens, book-form gate swinging open 90 deg. for threading and cleaning with the front plate sprung; and 16-tooth sprockets with snap-over covers. The twin claw engages perforations 3 and 4, and is overpivoted so that 4 is normally driving; the claw movement is so arranged that only every other stroke engages the film, allowing a quick pull-down time with a 22 deg. sector shutter. The central plate is made of aluminium alloy, and covers forming



Traveler 8T.



Cineric T with loop type synchroniser.



Super Christen B3 MV with zoom viewfinder for lenses of 6-35mm.

the case are of plastic. The rewind is engaged by turning a knob on the projector, which engages a spring belt drive, and can be released by pushing a button. There are separate

switches for lamp and motor, and a room-light socket is provided. Price: 58,000 Fr. or 450 DM.

The Cine-Gel Royal 500 is of rather simpler construction. It features indirect lighting with a 300 w. mains voltage lamp with small b.c. socket (BA15). The front of the gate is sprung and also has the picture-defining aperture in it—a rather doubtful arrangement. The twin claw engages perforations 5 and 7, both of which seem to engage the film together, though it is difficult to be sure of this as the claw path is part of an arc. The shutter has three 44 deg. cut-off blades. The single sprocket has 12 double-spaced teeth, and fixed roller retainers. The motor is wound for 100-150 v. and has a resistance for higher mains voltages. The rewind is engaged by pressing a button, which changes over a spring belt. The whole projector is built into one half of a case. It is also manufactured in 9.5mm. and 16mm. versions. Price: 39,000 F or 300 DM.

Cineric, Paris XXe, 111 Rue Villiers de l'Isle Adam.

CAMERAS

A new production of this company is the Cineric 8mm. camera. Made of aluminium alloy, it has only one speed of 16 f.p.s., and single frame; lock-on run and cable release facilities. The lens is in a standard D mount, and normally a 10mm. f/1.9 Boyer Saphir D is supplied. Footage counter is marked only A 1.2 3 4 1, and is operated from an arm resting on the supply reel. The claw engages perforation 2. Price: 40,000 Fr.

PROJECTORS

The 8mm. version of the Cineric type T projector (which is also being made in 16mm.) was on show. It is built into a case which can be opened when running, and features a 500 w. lamp, 400ft. arms, a 20 or 25mm. f/1.4 lens, pre-heating of the lamp, and double claw with optical framing. Provision is made for a room light. Price: 80,000 Fr. The Cineric, Ericsson 16mm. sound projectors were also on show, both in optical and optical/magnetic versions.

SOUND SYSTEMS

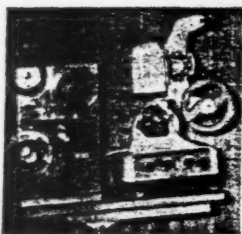
A loop type synchroniser for the type T projector, which can be fitted into the case, was also exhibited. Unlike most of these attachments, it did not utilise a variable resistance. Instead, a mercury switch on the swinging arm cut in and out a resistance wired in the motor circuit. Price: 20,000 F.

G.I.R.S.E., (British agents: Micro-technica, 14-18 Ham Yard, Piccadilly Circus, London, W.1.)

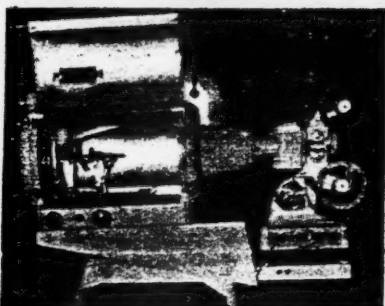
PROJECTORS

Cine were exhibiting on the stand of their German representatives, Kino Hähnel of Cologne. A new introduction was the Cireslux 8mm. arc projector. Basically a Ciresound stripe machine, an arc lamp burning 7mm. positive and 6mm. negative H.L. carbons at 30 v./50 a. has been added, the whole being mounted on a pedestal containing a rectifier for the arc supply. The lamphouse contains a 10mm. mirror, and incorporates a heat filter at its front end. A second filter is mounted in the original lamphouse of the projector. It is claimed that the projector will show pictures up to about 7m. (22ft.) wide at a throw of 130ft. The original 400ft. spool arms remain, and it is said that one pair of

Right: Hähnel home striping machine with Cirsesound projector. Below: Rexer 88 camera (Co. Européenne) with batteries in detachable handle; Cinemax 8 and 8T (Co. Européenne).



Right: Cirselux 8mm. arc projector, with arc door open, showing mirror.



carbons will last about three reels. Price is about 750,000 Lire (£1 = 1,700 Lire).

Another innovation was the Cirsifex attachments, by which 2 x 2in. slides can be shown with any Cirsé projector. It fits into the lens barrel in place of the usual lens, and contains its own condenser and projection lens which give a quite well and evenly illuminated picture. The Cirsesound projector in

its new form, recently introduced in Britain, was also on show, and was fitted with a variable-focus lens similar to the Bell & Howell Filmovara.

SOUND EQUIPMENT

On this stand also was a machine for the home striping of 8mm. film, developed by the staff of Kino Hähnel. Utilising slit Scotch Boy tape (Type 190 A), 0.8mm. wide, it pulls this over a wick on a bottle of special cement and brings it into contact with the base side of the film. The two then pass over a fixed drum, during which time the cement has time to set. The film can either be pulled through by hand, or preferably the lower sprocket of a projector can be used for this, the film then running on to the take-up reel. A maximum speed of 12ft./minute is recommended. The only proviso made is that the film must be clean.

The demonstration films, even one recorded while pulling film through the striping machine, were very good. The machine should be available in Germany shortly, and cost in the region of 250 DM; the running cost is estimated at 3-5 Pf./metre (tape + cement), as against 20-25 Pf./metre for commercial striping. The firm are also the German agents for Eriscam, and a full range of Camex equipment was on show.

La Compagnie Européenne, 244 Avenue de Tervueren, Brussels.

This company is the European distributor for a number of Japanese firms, and was sharing a stand with the Asahi Optical Co.

CAMERAS

Among them were the Cinemax 8 and 8T 8mm. cameras. These are basically similar, but the 8T has a twin turret. Both take standard D mount

lenses. The viewfinder is engraved with the field of view for lenses from 6.5 to 38mm. The camera has running speeds of 8, 16, 24 and 32 f.p.s., and the intermittent movement uses a sprung, non-retracting claw engaging perforation 2. Price: Cinemax 8 with 13mm. f/1.9 focusing: 2,750 B. Fr. Cinemax 8T with 13 and 38mm. f/1.9 focusing: 4,975 B. Fr.

Also shown was the Rexer 88 Electric camera, which uses two UM2 batteries in a detachable handle to provide the motive power. The handle also carries the starting switch, although another one is provided on the body for running with batteries in a separate case. Remote control by wire or radio is available as an extra. The camera has a three-lens turret with standard D mounts, a zoom finder for the focal lengths of 3.5mm. to 75mm., and—unusual in electric drive cameras—two running speeds of 8 and 16 f.p.s.

The claw is of the non-retracting sprung type engaging perforation 2 through the back of the film. It is electrically pulled into engagement when the release is pressed. The reason for this is that the camera has provision for backwind, operated by a dog engaging the supply spool, by which the film is dragged back past the gate when required. A table at the back of the camera gives the approximate amount of film wound back per turn of the key with various amounts of film remaining on the reel. A simple arrangement, but probably quite effective.

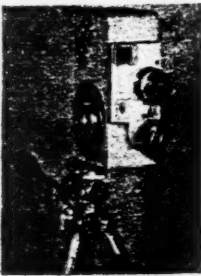
A built-in voltmeter points towards a green or red mark to indicate battery condition, one set of which should last for 1,500ft. An accessory shoe to hold a wide-screen attachment or an effects box is provided, and a meter is available which fits on to the central boss of the turret. Standard lens is a 13mm. f/1.9, and the price with this is 6,750 B. Fr.

LENSES

The camera is also available with a range of Simor lenses, which range from a 6.5mm. f/1.2 (2,100 B. Fr.), a 13mm. f/1.2 (1,590 B. Fr.) to a 38mm. f/1.0 (3,000 B. Fr.); also a zoom 13 to 38mm. f/3.2 at 4,950 B. Fr. (£1 = 137 B. Fr.).

PROJECTORS

An 8mm. projector, the Silver 8, was also exhibited. This utilises a 500 w. or 750 w. lamp, 400ft. spoil strip, a 20mm. f/1.6 lens and reverse run. It is built into one half of a carrying case. Price: 4,950 B. Fr.



Elmo Co. Ltd., 102 Shinmei-mae,
Atsuta-nigashi-machi, Mizuho-ku,
Nagoya, Japan.

CAMERAS

This company showed four 8mm. cameras: Elmo 8AA is a spring-wound camera, having speeds of 8, 16, 24 and 32 f.p.s., lock-on run, a zoom finder covering 6.5 to 13mm. lenses, with an engraved rectangle (for 13-38mm. footage counter on the camera door, and a red signal in the viewfinder that becomes visible when the camera is out of film. The sprung, non-retracting claw engages perforation 1. The camera has a D mount, and is normally fitted with an Elmo 13mm. f/1.9 lens. Price: £16 1s. 5d., f.o.b. Japanese port, or with Zenow Elmo f/1.1 focusing £19 12s. 10d., f.o.b.

The Elmo 8R-S is a battery-driven camera, running on four 1.5 v. penlight batteries placed in a cartridge in the body, which are said to last for 20 reels, the consumption with film in camera being about 100 mA. The electro-mechanical governor keeps the speed constant until the battery voltage drops down to 4 v., after which the camera refuses to run. A cable release is utilised for single-frame exposures, while a remote control can be used with an external battery pack. The zoom finder covers focal lengths from 6.5 to 38mm. The sprung, non-retracting claw engages perforation 1. The camera uses D mount lenses, and with a f/1.9 fixed focus costs £16 1s. 5d., f.o.b. Japan. With f/1.1 focusing £19 12s. 10d., f.o.b.

The 8R-T is similar to the 8R-S, but has a three-lens D mount turret. With 13mm. f/1.9 lens only it costs £18 18s. 5d., f.o.b., with 6.5mm., 13mm. and 38mm. f/1.9 £26 8s. 7d., f.o.b. and with a set of three f/1.1 lenses £37 10s., f.o.b.

A new camera, the 8V, was introduced at the fair. It has a 10mm. f/1.8 lens built into the body, and a 25mm. telephoto attachment mounted on a turret fixed to the front plate. Moving the telephoto lens into the taking position automatically masks the finder to show the correct field of view. The finder has a focusing eyepiece. The aperture is set by means of a calculator dial at the top left of the camera front, and has a lever for facilitating fading in or out. The iris diaphragm is totally closing, to give a proper fade to black. A backward operating on the top spool is provided, and for operation the camera release must be in the locked-run position.

The footage counter is driven off the film on the top reel. Running speeds of 8, 16, 24 and 32 f.p.s. and single frames are provided. The key is of the ratchet type, giving convenient winding. As on all the other models of this company, the film gate closes automatically when the door is closed. Price: approx. £13, f.o.b. Japan.

ACCESSORIES

The following are available for all

cameras except the 8V: a compendium effects box, for various masks and wipe effects, a titler, and a wide-screen attachment Elmoscope (having a squeeze ratio of 1.5:1) and costing £12 10s., f.o.b.

PROJECTORS

The Elmo E-80 8mm. projector exhibited utilised a 100 v./750 w. P. F. lamp, but later models will probably be fitted with the 8 v./50 w. reflector lamp and a new motor. It is fitted with 400 ft. arms, which fold for storage. The lens is a 20mm. or 25mm. f/1.4. The front part of the gate is sprung, and the twin claw engages perforations 1 and 2, the latter normally driving. Framing is optical, and there is provision for reverse run and for showing stills (with a heat filter). The shutter has three 45 deg. cut-off blades. There is a separate switch for lamp and motor, and provision is made for connecting a room light up to 100 w. capacity and fading this out by a rheostat built into the machine. The two 16-tooth sprockets have hinge-type retainers. The main drive from the motor is by a flat plastic belt, the spools being driven by spring belts. Price: £19 12s., f.o.b.

Elmo XP-830 16mm. sound projector with Xenon arc lamp was also shown. The Xenon lamp is pulsed, and film pull-down occurs during a dark period, so no shutter is needed. A mag./optical version is also available. The machine is meant for semi-professional and educational use. Price, with 12in. loudspeaker with co-ax. tweeter, and control gear, \$1,200 f.o.b.

Also on show was a D3 16mm. projector with conventional 750 w. lighting, and without magnetic recording facilities.

SOUND SYSTEMS

A further exhibit was a stripe converter for the 8mm. E-80 projector which then becomes known as EX80. The bottom spool arm is removed and a sound head carrying a take-up fitted in its place. The film passes from the gate over a flywheel, on to which it is held by a pressure roller, and is scanned on a small drum, then passing over the lower projector sprocket to the take-up reel. The separation between picture and sound is 72 frames (sound ahead), a distance we understand is common in the U.S. The projector stands on the Elmosound amplifier, which serves for both recording and reproducing, and delivers an output of 7 w. It has only one input, but a three-way mixer is available. A dynamic microphone and a monitoring earpiece are supplied. Price, without mixer: £130; with mixer £185, f.o.b.

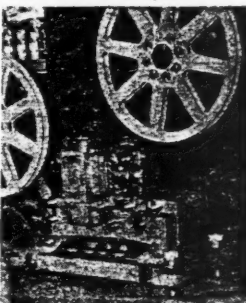
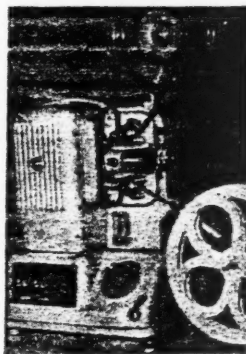
Eresam, (British agents: Apparatus and Instrument Co. Ltd., 15 Sheen Lane, Mortlake, London, S.W.14.)

CAMERAS

CAMEX reflex 8mm. cameras with a large variety of lenses were on show.

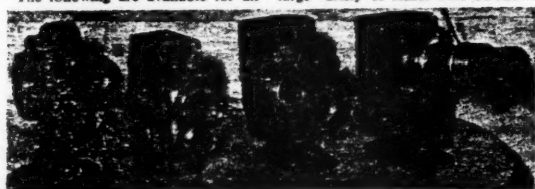
Among them was a zoom-adaptor Polyfoc; it has a zoom range of a little under 24:1, and can be used with lenses ranging from the 12.5mm. to 35mm. The maximum aperture usable is f/2.8 with the 12.5mm. lens and f/8 with the 35mm. The light loss is about half a stop. Viewed through the reflex focuser of the Camex, the pictures appeared fairly sharp, and evenly illuminated. Price: 300 DM.

A number of zoom lenses mounted for the Camex were also exhibited,

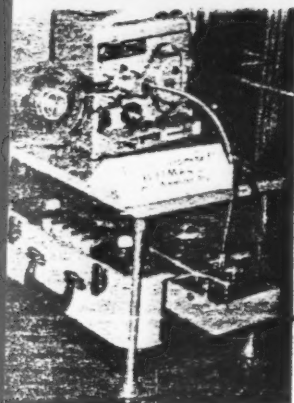


Top: Elmo 8mm. E-80; Elmo D3 16mm.

including the Berthiot Pan Cinors P30 f/2.8 10-30mm. and P70 f/2.4 17.5-70mm., as well as the Angemieux f/2.2 17-68mm. A wide screen Hypergonar was also demonstrated. Another innovation was a semi-automatic coupled exposure meter for the Camex, called the Camelux Realt. It clamps on to two pins on the side of the camera, and couples via a cam fitted to the 12.5mm. and 20mm. lenses, and also carries an operating lever. Once adjusted, the lever has only to be moved until two needles visible from the back of the camera coincide, and the correct aperture is automatically set on the lens. The meter is scaled basically for Kodachrome, but can be



Elmo 8AA, 8V, 8R-T and 8R-S. The last two are battery-operated. A range of accessories is available for all except the 8V.



Weimar 3 with Weimar-Ton loop synchroniser.

used with a conversion table for films up to 100 ASA.

PROJECTORS

The new model of the Malex Club 8mm. projector roused considerable interest due to its unusual illuminating system. The bulb used is a Philips 78, having a 12 v./70 w. flattened filament in a spherical bulb, with the rear half silvered. The base is a single-centre contact triple bayonet. The projector uses a large aspherical condenser surrounded by an ellipsoidal-cylindrical reflector, which collects a large amount of the light that would otherwise go to waste and reflects it to the gate. In this way only a small amount of the total light available is lost.

The projector has forward and reverse run, and the lamp can be switched to pre-heat, normal or over-run, all with one switch. Rewinding is accomplished by moving over a small lever, which engages the appropriate belt and at the same time switches on the motor. The machine can operate from 115 and 220 v. mains, and has a pilot light and plug for room light. The film sprockets have 13 double-spaced teeth, with sprung retainers. The gate has the front plate sprung and carrying the smaller aperture. The whole assembly hinges forward through 45 deg. for threading.

The twin claw engages perforations 9 and 11, the former doing the driving with undamaged film. The shutter is two-bladed, geared up 1:1.2, and optical framing is provided. The lens is a 20mm. f/1.5 Biotiot, with a f/1.2 available shortly. The mechanism is interchangeable for running 9.5mm. or 16mm. film. The drive to the sprockets is a little unusual; they are driven via a triangular coupling plate which is eccentrically driven by the flywheel. Price: 85,000 Fr.

SOUND SYSTEM

A special version of this projector, the Malex Club Electromat can be used with a Synchrofilm unit for sync-sound recording with perforated magnetic tape; this supersedes an earlier version which used ordinary tape and friction drive. The tape, made by the French firm of Sonocolor, is made of Mylar, and carries standard 46mm. perforations. It passes over a 49-tooth sprocket on the Synchrofilm unit, driving a make-and-break switch via



L. to r. Eumig Electric D, Unilectra and Electric R.

a cam; switching is provided to suit tape speeds of 3½ and 7½ in./sec. The projector carries a NormalSynchro switch, which cuts out the manual speed control when the sync system is in use.

The projector mechanism drives a centrifugal governor which operates a rheostat in series with the motor, whose arm is kept continually in motion by a reciprocating cam driving on the return spring. Another cam drives a switch which, in conjunction with the switch driven from the Synchrofilm sprocket, periodically completes a circuit through a phase-shifting capacitor and resistor across the motor field winding, ensuring synchronous running. A meter is provided on the projector which indicates when it is running in coloured signal lights are provided.

Price: Projector Malex Club-Electromat, 100,000 Fr. Synchrofilm device, 10,000 Fr.

Eumig, (British agents: Johnsons of Hendon Ltd., 335 Hendon Way, Hendon, London, N.W.4.)

CAMERAS

Eumig introduced two new versions of the electric camera, the Unilectra with a built-in fully automatic exposure meter for film speeds between 12mm. and 21 deg. DIN, and Schneider 13mm. f/1.9 lens; the aperture can also be set by hand if required. Otherwise the camera is similar to the ordinary Electric, and w.a. and tele attachments will become available. Price: 345 DM.

The second innovation was the Electric D, with interchangeable lenses (standard D mount) and zoom-type finder. Price: 255 DM. The Electric R

with a turret carrying w.a. and tele attachments (429 DM) was also exhibited; this carried a small uncoupled exposure meter in a shoe on top of the camera, but it is possible that production models will have this built-in. Other Eumig equipment, already familiar here, was also on view.

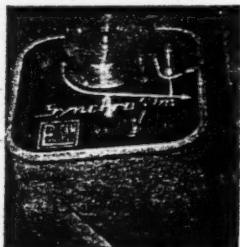
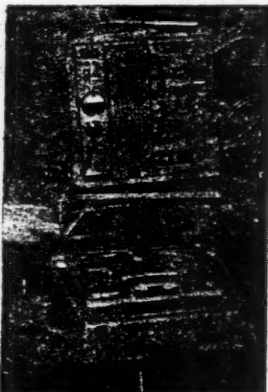
Fingerhatswerk Weimar, (British agents: Messrs. Amplion Ltd., 175-179 Cricklewood Lane, London, N.W.2.), PROJECTORS

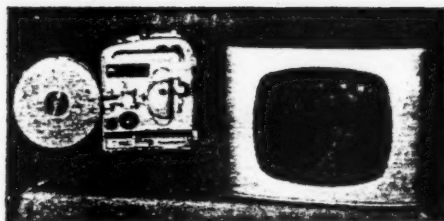
The latest projector of the series, the Weimar 3, was exhibited. This differs from the 2 mainly by the provision of a 12 v./100 w. flattened filament lamp in place of the high-voltage lamp fitted to the earlier models. The transformer has tappings for 110, 125 and 220 v., and in addition an adjustable screwed plug is provided for running the lamp at 11, 12 or 13 v. at rated mains voltage. The lower figure is meant for use with small screens, and naturally gives a greatly increased lamp life. The higher voltage is intended for projection on very large screens, but the lamp life suffers accordingly.

Like its predecessors, the projector utilises indirect lighting via a 45 deg. mirror, but in this model the condenser optics have been bloomed. The body is of die-cast construction with the claw housing in plastic. The spools are placed side by side at the back of the machine, and the film is fed by two adjacent 20-tooth sprockets on a common shaft, and held on by sprung rollers. The projector can run in reverse, and stills can be shown by switching off the motor. Motor and lamp are not interlocked, but a perforated heat-shield drops down when the motor stops, and protects the film.

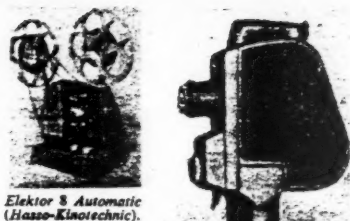
The gate opens through 180 deg. for cleaning, and has the front part sprung; this also carries the smaller aperture. The double claw engages perforations 3 and 4, and is driven by a cam and link combination. Fixed and sprung edge-guiding is provided, and framing

Malex Club Electromat projector with Ercasyn Synchrofilm attachment made for use with it.





Weimar 3 and endless loop attachment for back projection.



Elektor 8 Automatic (Hasso-Kinotechnic).

is non-optical. A neon pilot lamp along the top of the operating side, which is on as long as the projector is connected to the mains, is used to illuminate a strobe which can be plugged on to a rotating boss just behind the claw and lamp cover. The strobe-holder is also used to drive a spool for rewinding. Price: 480 DM.

SOUND SYSTEMS

A loop-type synchroniser Weimar-Ton driven via a flexible coupling from the same boss as the strobe on the Weimar 3 was demonstrated. The synchroniser carries adjustable feet for use with tape recorders of various heights.

ACCESSORIES

An endless-loop attachment holding up to 100ft. of film. It is mainly intended for show-window advertising.

Ferrania, (British agents: Messrs. Neville Brown & Co. Ltd., 77 Newman Street, London, W.1.).

This Italian firm showed a large selection of their black and white as well as colour films. It is hoped that these will be available in Britain shortly. A new introduction was a 16mm. colour film with a speed of 15 deg. DIN (24 ASA). In 8mm., the older 11 deg. DIN emulsion only will be available. The products of this company also include a super-fast reversal film (27 deg. DIN—400 ASA) in both 8 and 16mm. Its speed is stated to be such as to allow filming at an aperture of $f/12.6$ in an average sized room with three 50 w. lamps.

Gamma-Officine Meccaniche Precisioni, Via Monte delle Capre 41, Rome.

PROJECTOR

This firm manufactures the Febo 8mm. projector, which they demonstrated on their stand. It uses the 12 v./100 w. lamp, operated from the same switch as the motor. The arms will accommodate 400ft. spools, and the top arm is fitted with a geared hand rewind. No motor rewind is provided. The design utilises two 20-tooth sprockets with fixed roller retainers. The gate opens forwards, and if desired the front part can be entirely removed for cleaning. The front plate is sprung, and the claw operates in perforations 1 and 2.

Optical framing is provided, and the shutter has three 50 deg. cut-off blades. The lens fitted is a 20mm. $f/1.5$ Schacht Travelpian. The transformer has tappings for 110, 125, 140, 160, 220 and 280 v. mains, but if, as is possible, the projector is imported into Britain, a 240 v. tapping will be provided. Price: 53,000 Lira.

Gevaert Ltd., Great West Road, Brentford, Middx.

Gevaert films are not sold directly in

Germany, but are marketed by Zeiss under their own trade-name. The only apparatus shown by the German agents, Gevaert-Technik, was automatic laboratory D. & P. equipment, mainly manufactured by the American PAKO Corporation. Gevaert cameras are not available on the German market, but for the sake of completeness we must mention the new Gevaert Carera camera (which is just becoming available in Britain), if only because it represents a completely new design in cine cameras; it is therefore rather ironical that it should not have been shown at what is undoubtedly the largest exhibition of its kind in the world. (A full test report will be published in *A.C.W.* in due course.)

CAMERA

This new double-8mm. Gevaert Carera from the Swiss company of Carera, manufactured in Liechtenstein for Gevaert, is quite revolutionary in design. The spring motor is contained in a cylinder fixed to the underside of the camera, which also serves as a most convenient grip. As the motor is separate, the body of the camera can be extremely small and slim. In fact, it is not much larger than is required to take two spools of film.

The spring is wound by rotating the "handle," i.e., cylinder, and the amount of tension left in the spring is shown in a window near the bottom. In addition, an acoustic signal is given when the motor needs rewinding. The camera incorporates a trigger release, and can therefore be held and operated quite conveniently with one hand. The works are contained in a very shallow central "body," which is so thin

Gevaert 8mm. Carera camera.

that it almost looks like one plate.

The camera body proper is of deep U-section, and fits either side of the plate and enclosing the spools. It is so shaped as to fit comfortably against the cheek. The finder, placed centrally on top of the body, can be tilted for parallax compensation down to $\frac{1}{16}$ in. with click-stops at $\frac{1}{16}$ and $\frac{1}{32}$ in. adjustments. A spirit level is visible in the finder as an aid to keeping the camera level. The lens fitted is a 12.5mm. $f/1.9$ Benthof B in interchangeable D mount, focusing down to 8 in. Film transport is by a non-retracting sprung claw, and speeds of 8, 16, 24 and 32 f.p.s., as well as single frames and lock-on run, are available. (147 10s.)

P. Gossen & Co. GmbH, Erlangen, Nügelbachstrasse, 25.

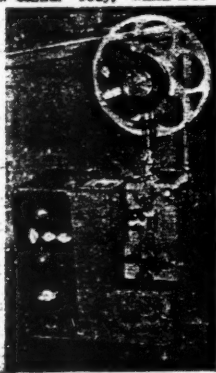
This famous German exposure meter firm showed a variety of their products, including a range of exposure meters developed for use in many of the automatic and semi-automatic cameras on show. All German-made automatic cine-cameras employ a Gossen meter movement individually tailored to the requirements of the camera manufacturers. These meters have an acceptance angle of 27 to 30 deg., and a speed of response of the order of $\frac{1}{10}$ seconds per stop, though this is slowed down a bit by the iris mechanism and its associated gearing, which is not made by Gossen.

Hasso-Kinotechnic, Munich 15, Goethestrasse 28.

PROJECTORS

This firm acts as distributors for the Munich firm, Foton, manufacturers of 8 and 16mm. projectors in the Elektor series. A completely new introduction, which should be available in Germany in the spring of 1959 is the Elektor 8 Automatic. This has provision for automatic threading. Loop-forming chutes are positioned above and below the sprockets, and when the "thread" key is depressed these are brought into position and the projector motor will run; if the end of the film is then presented to the top sprocket, it will then run through the projector, automatically forming the correct loops. The formers spring out of the way when the "stop" button is depressed. When the end of the film has been affixed to the take-up spool, the "run" key is pressed, and the show can begin.

The projector uses the 8 v./50 w. silvered lamp, and an asynchronous motor. The claw engages perforation



Elektor 8 Bay 8 stripe projector.

1 and has a fairly quick pull-down, the cut-off blades on the shutter being about 40 deg. The transformer is tapped for 110, 130, 150, 220 and 240 v. Framing is optical, and the lens fitted, at present is an Isco Duotar 20mm. f/1.5, but this will probably be replaced by a Swiss-made f/1.3 on the production model. The arms will accommodate 400ft. spools, and a 300ft. endless loop attachment is available. Connecting a room light is provided for. Price: 384 DM.

The firm was also exhibiting the already familiar (in Germany) Elekto Boy Eight stripe projector which now uses the 8 v./50 w. silvered lamp. It is almost unique among 8mm. projectors as it has a triple claw, engaging perforations above the slate, in positions - 5, - 7 and - 9. The gate, made of Novotex plastic, front half sprung, has fixed edge guiding for the film. Framing is non-optical. The sprockets have 16 teeth and are provided with side-ways-hinged retainers, and the lower sprocket is used for pulling the film through the sound head.

The film travels from the gate via a loop-former, over a roller to a capstan, and is scanned on a drum—54 frames ahead of the picture aperture—then via a fixed and sprung roller to the lower sprocket, and after that, via two rollers to the take-up which is situated adjacent to the upper sprocket and can take up to 2,000ft. spools. The projector has a 20mm. f/1.5 Isco Duotar lens at present, though a Swiss-made f/1.3 will probably be fitted in the near future. The shutter has three 60 deg. cut-off blades. The amplifier is built in at the back of the projector, and provides a 5 w. output; frequency range is quoted as 30 c/s. to 6 Kc/s., and a mixer for a 200Ω dynamic microphone and a P.U. with an output of 9-1 v. at 500Ω is provided. The loudspeaker is built into the lid of the base.

The erase head is situated above the top sprocket of the machine. The motor is asynchronous, and mechanical push-button switching is provided for changing from 16 to 24 f.p.s., with an alternative of 18 available to choice. The transformer is tapped for 110, 125, 150, 220 and 240 v. Price: 1,866 DM. There is also a silent version and an Elekto Junior T6 16mm. sound-projector.

Haymer, 167 Greyhound Road, London, W.6.

This British firm introduced a new animated viewer for 8mm., the Animatec. Using a prism and a shutter, it costs only £11 17s. 6d. retail, complete with a rewind, and mounted on a board, with room for a splicer, which costs £2 7s. 6d. extra.

FAS camera, PS8 projector (Heurtlier).

Heurtlier, Le Rond Point, St. Etienne (Loire), France.

CAMERAS

A new version of the M18 camera, the FAS, with semi-automatic fade and dissolve facilities, was introduced. It has a variable shutter which can be adjusted (with the camera stopped) to give shutter openings of 180, 90, 45 and 22 deg. Alternatively, if the release lever is moved forward, an automatic 48-frame fade-out is achieved. The film can be wound back over 48 frames if required by pulling back a lever near the spring-winding key. This clamps the top spool, and engages a finger in the loop between it and the gate, pulling film back. When the camera is started, an automatic fade-in is achieved, so giving a four second dissolve.

The camera specifications include a zoom finder for lenses from 6.5 to 35mm. focal length, variable speeds (8 to 48 f.p.s.) and single frames, interchangeable D mount lenses, and a fully-retracting claw which engages perforation 5. The normal lens fitted



Rear view of Heurtlier PS8, showing cable reel.

is a 12.5mm. f/1.9 Berthiot, and with this the camera costs 53,087 Fr. The M18, without the fade and wind-back device, but with all the other facilities (including variable shutter) costs 46,500 Fr.

PROJECTORS

A new introduction in this section was the PS8 8mm. projector. Very small and handy, it is built into a metal case, the lid of which hinges upwards to provide support for the spools; the back of the machine is fitted with a large-diameter pull-out reel, on which the mains cable is wound. The 8 v./50 w. mirrored lamp is used; the transformer is tapped for 110, 127, 190 and 220 v. mains, and feeds the lamp and the series-wound motor through a single switch; the lamp is therefore on when rewinding. The rewind is engaged by pressing and holding down a button. The sprung back pressure plate is attached to the lamp-house cover, and the twin claw engages perforations 6 and 7; it is automatically retracted when the gate is opened.

Framing is optical, and an air-blast operated safety shutter is provided between lamp and film. The machine slides two 20-tooth sprockets with sprung retainers, and has a 20 or 25mm. f/1.5 Berthiot Ciner lens. Also exhibited were the multi-gauge projectors (for running 8, 9.5 and 16mm. on one machine), already described in the A.C.W. directory of 8mm. projectors. Silent, optical and mag./optical versions are available.

Kodak AG

Kodak had a large exhibition of sensitive material, including Panatomic-X and Super-XX 8mm. films introduced into Germany for the first time. These as well as Kodachrome stock are imported into the country either from Britain or France. Little movie equipment was on show, but Kodak announced that the turret version of the Brownie Movie will shortly be in production in Britain, with a probable reduction in price over the model imported from the U.S. A new projector, the Eight-58, should be available when these notes appear. Using the 8 v./50 w. mirror lamp, single sprocket, and a fibre-glass case, it should cost about £25; the arms have a maximum capacity of 200ft. The French subsidiary, Kodak-Pathe, also showed a selection of sensitive materials and magnetic films and tapes.

Palford-Bolex A.G., (British) agents: Cinex Ltd., Bolex House, Burslem, Gorton, Southgate, London, N.14.).

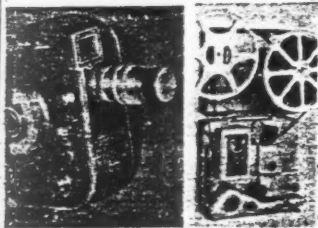
CAMERAS

Bolex showed a new version of the B8 VS camera with a semi-automatic coupled exposure meter, the B8L; it is unique in design and construction in that the light is measured actually through the taking lens. A small selenium cell is mounted in front of the gate aperture by depressing a lever at the top left of the camera and this automatically locks in position. When the exposure release button is depressed, it flies up out of the way, leaving a clear path to the gate.

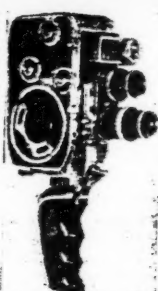
The meter movement is attached to the top of the camera front-plate, with the pointer visible in the finder window. The adjustable pointer provided is set to a guide-number dependent on film speed (10-80 ASA), running speed (f.p.s.) and shutter sector. A further allowance has to be made in the case of the w.a. lens to compensate for the cell not being in the same plane as the film; with longer objectives than normal, the difference becomes negligible. Once this has been done, the aperture ring of the lens in use has only to be turned until the pointer of the meter coincides with the pre-set one, and filming can then begin.

The advantage of this design is that it can be used with fully interchangeable lenses—which, to our knowledge, has not so far been possible. Also, no allowances have to be made for filter factors, as these are automatically providing the spectral sensitivity of the cell is sufficiently close to that of the film, which is so for the filters likely to be encountered in practice. A further advantage is that variations in light transmission of lenses is taken into account (though these are likely to be very small), and that the angle of light measured coincides with that seen by the lens.

Nevertheless, as with all reflected light readings, only the average light of



Bolex B8L with semi-automatic coupled exposure meter. The light is measured through the taking lens.



the scene is measured, and may lead to incorrect exposure when exceptional subjects are encountered. In this case the remedy is to approach close to the subject to take a subject reading. It must be emphasized, however, that the occasions when this will be necessary will be extremely limited: 99 per cent. of the time the normal camera-position reading will give correct results.

One small disadvantage of the design is that, unlike most other coupled meter cameras, it is not possible to measure the exposure during actual shooting, so as to compensate for sudden light variations due to, for instance, a cloud passing over the sun, or to a pan or tilt from sunshine into shade; however, such compensation is, in any case, seldom very satisfactory. We feel that the advantages gained, particularly of interchangeable lenses, far outweigh the drawbacks.

Additional Modifications

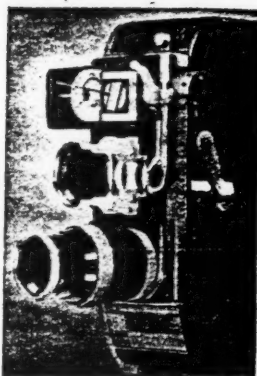
The construction is very neat, very little being added to the length of the body (less than the length of the lenses). The meter movement is fully enclosed, and is thus protected from dirt and damage. Two rectangles are inscribed on the front meter window to indicate the field of view of the 1in. and 1 1/4in. lens, as it is a little difficult to see the meter pointers with the zoom finder set to the longer focal lengths. If required, of course, the finder can always be set to the appropriate focal length after the aperture has been set.

A further modification is the addition of a short plastic operating lever to the shutter-selector knob: this makes it easier to achieve a smooth fade. The lever also incorporates a sliding catch to lock it in position at fully open, half and three-quarters closed, thus preventing accidental movement during use or while putting the camera away in a case. It will also be fitted to new B8 VS models.

Speed Calibration

The B8L camera, it is interesting to note, has no 8 f.p.s. setting: the lowest running speed now being 12 f.p.s. An additional marked speed of 18 f.p.s. is provided for, this being the proposed international speed for 8mm. stripe. We think it a pity that the slower speed has been dispensed with, as it has come in very handy for dealing with poor light on static subjects, and for comedy effects.

The reason, we were informed, is that cameras are calibrated at the works only at their lowest and highest speed settings, and the accuracy with which the other speeds fall into place depends on manufacturing tolerances.



By dispensing with the lowest speed, the most frequently used normal speed can be more accurately adjusted, particularly as a larger part of the dial is available for it; the pitch of the operating mechanism can therefore be made lower. It is probable that this modification will also be incorporated in the other models of this series. Price: with Kern 13mm. f/1.9 and 36mm. f/2.8, 848 DM, 100 DM more than a B8 VS. Now available in Britain.

Incidentally, Bolex's accredited agents in Berlin, Marlow & Co., are offering a conversion service for various cameras, carried out by mechanics trained in the Bolex factory in St. Croix, Switzerland. The following are available: conversion of a C8 to a B8, 90 DM; C8 to C8/3 (with three lens turret), 186.50 DM; B8 to B8/3, 146.50 DM; fitting of variable shutter to B8 or B8/3, 80 DM; C8 into B8L (with built-in exposure meter), 280 DM; B8 into B8L, 225 DM; B8 VS into B8L, 170 DM; H16 to H16 Reflex, 440 DM; fitting a 4 lens turret to H16 or H16R, 250 DM. They also carry out the conversion of an M8R projector for use with the Synchronast for 57 DM. The fitting of the three-lens turret to B8 and C8 cameras is also carried out by a Swiss firm, A. W. Oswald.

LENSES

A new lens making its debut at the show was the 75mm. 1/1.9 Tele-Switar, a six-lens construction making the increase in speed possible. Bolex are also including the 25mm. f/0.95 S.O.M. Berthiot Cinor (8-components) in their range.

SOUND SYSTEMS

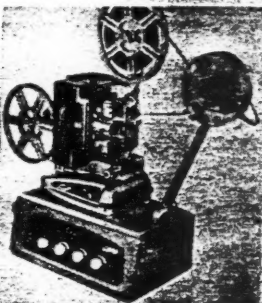
A stripe adapter, designed for the M8R but usable with other projectors having the necessary electrical and mechanical properties, was another innovation demonstrated for the first time. Known as the Bolex Sonorisier, it is of the pull-through type, but built on different principles from most other such attachments. A tight-loop system is used, the film passing over two sprockets coupled to each other, in between passing over idling spring levers and a capstan coupled to a carefully balanced flywheel. The heads are arranged to scan the film while it is proceeding in a straight line, ensuring good contact.

The adapter is normally mounted so that the film goes from it to the upper projector sprocket, the picture-sound separation being 136 frames (picture ahead), the exact amount being adjustable by varying the position of the projector. The adapter is supplied complete with a 4 w. record-playback amplifier, with the loudspeakers mounted in the detachable lid of the unit, complete with 25ft. of cable so that it may be placed near the screen; the adapter and microphone also fit into this case. The top of the amplifier carries a platform on which the projector is stood, and the sound head is mounted on this on a long arm attached by a single turn-screw.

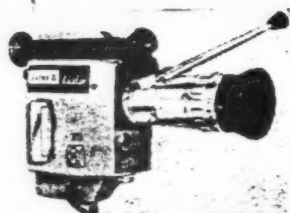
Superimposing Device

There is provision for mixing microphone (0-1mV./200Ω balanced) and pick-up (100mV./20 k.Ω.) and a very neat superimposing device, when a button fitted to the special dynamic microphone is pressed, the music (or other signal) already present on the stripe is slowly faded down to a level partially determined by the setting of the microphone volume control. Thus, by suitably varying the microphone input, the amount of original track erasure can be varied to suit individual tastes. Connection of the microphone and switch is by a three-pin shielded plug. Recording level indication is by means of a glow-tube, and the loudspeaker can be used for monitoring, if desired, its volume controllable by the same rheostat which acts as a zone control on playback.

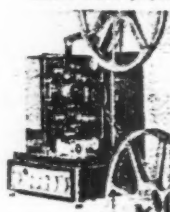
The adapter was demonstrated with an M8R projector, and gave good quality. The projector was fitted with a built-in strobe for setting the speed to 18 f.p.s., and it was noticeable that this varied quite frequently by small amounts, even though the projector had been warmed up thoroughly. There is a possibility that it might become audible as wobble pitch change if corrected too violently by the operator, but with practice smooth control is possible; it would seem to be necessary, however, to keep an eye on the strobe almost continuously if best results are to be achieved. In a way it is a pity that the machine has not been fitted with a governed or asynchronous motor, but this would lead to difficulties when used with a loop-synchroniser such as the Synchronast. Price: 756 DM. Special microphone, 84 DM extra.



M8R projector with Bolex Sonorisier stripe adapter.



8mm. Lido with (above)
Pan Cinor 30 zoom.
Below: PS16 projector.



Pathe Schmalfilm, (British representatives: *Pathescope (G.B.) Ltd., Norrin Circular Road, Cricklewood, London, N.W.2.*)

CAMERAS

For the first time in Germany Pathe showed the Lido cameras in all three gauges—8mm., 9.5mm. and 16mm. All are externally similar and use 50ft. spool loading. A minor difficulty is that no 8mm. film is available in Britain on 50ft. spools; Gevaert used to make it, but now supply 8mm. film on 25 and 100ft. spools only, as do Kodak with Kodachrome. Of course, 25ft. spools can be used equally successfully in the camera, but some of the advantage is then thrown away. In Germany, film will be available from Adox, Agfa, Gevaert and Perutz.

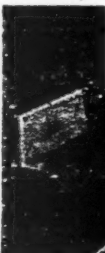
The 8mm. version is fitted with a standard D and the other two with C lens-mounts. The 9.5mm. model is available in single-speed (Lido I) and multi-speed (Lido IV, 8, 16, 24 and 32 f.p.s.) versions, and the other two gauges in multi-speed models only. On these the finder is fitted with parallax correction, and has a built-in adapter lens to suit wide-angle objectives. In the 8mm. model the claw engages perforation 1. The 16mm. model will accept single-perforated film. Due to its shape the camera is very suitable for use with the Berthiot Pan Cinor 30 zoom lens, the finder not adding anything to the width of the camera. *Prices, without lens: Lido 8, 396 DM; Lido 1/9.5, 298 DM; Lido IV/9.5, 348 DM; Lido 16, 485 DM.* Other cameras on show included the 9.5mm. IIB, Webco A and Webco reflex, the latter with numerous accessories for various specialist uses.

PROJECTORS

Two new projectors, both available in 8mm. and 9.5mm. versions, were on show. The Baby 60/8 and 9/5 are medium-priced projectors with 400ft. spool arms, variable speeds (there is provision for connecting a loop-synchroniser), and motorised rewind. The 8mm. version uses the 8v./50w. reflector



Pathe Synchronema with Europ projector.

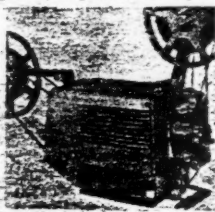


lamp, and the 9.5mm. a 100 v./500 w. Price: (9.5mm.), 441 DM.

The Europ is a rather more elaborate machine. It can take spools up to 900ft., has a single-bladed 30 deg. shutter geared up 3:1 and a quick pull-down (1:12), sprung twin claw, two 12-tooth sprockets, optical framing, variable speeds, reverse run, motor-rewind, pilot lamp and connection for room light, and built-in provision for coupling to a loop synchroniser. The construction is unusual in that it makes use of only one shaft, which is directly driven from the motor. The 8mm. version again uses the 8 v./50 w. mirrored lamp, while the 9.5mm. model can take lamps up to 750 w. at mains voltage. Price: (9.5mm.), 660 DM.

A new projector was also introduced to replace the PM15. It is available both in 9.5mm. and 16mm. versions, and can be built up on the building-block principle from a silent machine to a mag./optical one. The basic projector is the P16 (or 9.5). This has an asynchronous motor for driving at 16 and 24 f.p.s., 1,000 w. lamp, 900ft. spools, reverse, optical framing, and pilot lamp and room-light connection. The PR, a version with a series-wound motor, for use with loop synchronisers, is also available.

The PS16 is the optical sound version, and has 1,800ft. arms. It uses a germanium photo-diode in place of



Pathe Europ: two versions, 9.5mm. and 8mm.

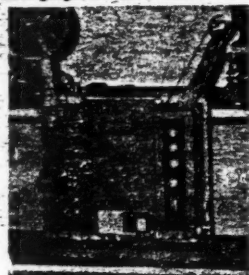
the more usual photo-cell. The amplifier has an output of 13 w. with less than 5 per cent. distortion, and a frequency response of 20 c/s to 20 Kc/s, of which a range of 43 c/s to 6 Kc/s is available for optical s.o.f. reproduction. With the addition of magnetic record/play and erase heads, the machine becomes the PSM16. A frequency range of 35 c/s to 9 Kc/s is boldly claimed at 16 f.p.s., extended to 15 Kc/s at 24 f.p.s. A magic eye volume indicator and a printed circuit pre-amplifier/oscillator are also included. The amplifier has provisions for "magnetic mixing," i.e., superimposition with the amount of original track erased, variable. Magnetic and optical track can be played off together, if required. *Prices: P16, 1,090 DM; PS16, 2,700 DM; PSM16, 4,200 DM.*

SOUND SYSTEMS

A prototype of a novel sound synchroniser, using perforated tape, the Synchronema, was demonstrated with an 8mm. Europ projector. The tape used is made by Messrs. Sonarep; it appeared to be $\frac{1}{16}$ in. wide with 8mm. perforations, and is not coated in the perforation area. The base seemed a little thicker than usual brands, but thinner than film. It was difficult to ascertain exact details—but it used a large diameter sprocket driven by a flexible drive from the projector, the tape passing from the recorder capstan to this and thence to the take-up spool. It is probably a sprocketed version of the usual loop synchroniser. As explained in our recent series on sound systems, the use of sprocketed tape ensures 100 per cent. synchronism, as the tape cannot stretch or slip on the capstan. The synchroniser will suit tape speeds of both $\frac{1}{2}$ and $\frac{7}{8}$ in./sec.

ACCESSORIES

The model S, a very small, neat splicer for 8mm. and 16mm., and a 9.5mm. model, were on show. The design is a little unusual, the semi-automatic scraper being hinged under one of the leaves of the press holding the film. The join is made on the frame line. Price: 26 DM. Editions in all three gauges are also available.



Hokusin 16mm. sound.

Hokushin Electrical Works Ltd., 312 Shimomarucho-cho-Ota-ku, Tokyo.

PROJECTORS

Three 16mm. sound projectors were featured: the SC-102 and SC-102M optical and mag./optical play-off single-case projectors, with a fibre-glass case, weighing less than 60 lb., and the SC-71M mag. play-off, with printed circuit amplifier, triple claw and film-loop setting device. *Prices: £90 6s.—£155 16s. 4d., f.o.b. Japan.*

Unsteady Pictures, Scratches

By DOUBLE RUN

I HAVE been searching for a second-hand projector—and been rather shattered both by the scarcity of second-hand 8mm. equipment and by its price. One dealer explained to me it was because 8mm. had been going such a short time. I ask you!

In the end, I decided on a Eumig P.8—but the problem was finding one. I wrote to two of the firms who were inviting customers to hand in P.8s in part exchange for Imperials—but neither had a model in stock. One, however, was expecting to get a P.8 in, and offered it me for £26 15s., including carriage. As the machine sells new for £32, I thought this most expensive—but found it to be a typical price. A local dealer indeed, offered me one for £29. He said it had only been used for a few days, but even so . . .

So I settled on the £26 15s. offer and hope to report more fully on my buy later on. Incidentally, it's very satisfactory to see that the prices of new projectors are coming down. Even the most august makes are being reduced.

AT THE CROSS-ROADS

ONE of my correspondents is at the cross-roads and doesn't know which way to turn. "According to you," he writes, "one can expect very good quality from good 8mm. equipment, but somehow all my past films, especially the b. & w., seem to get scratched after a few months. Denys Davis reckons that scratched films are one of the bugbears of 8mm. and he says that the only way to get quality is to go over to 16mm . . . Please help me to decide . . . I like 8mm. cameras for their neatness and compactness."

Films of 16mm. also get scratched, of course. As with 8mm., it all depends how you look after them. As I have pointed out before, the crux of the matter is the size of the audience. If you want to show your films to large audiences and can afford to pay three times as much per minute of colour film, change to 16mm. by all means. If you only want to show films in your own home, or like to eat as well as film, stick to 8mm. After all, it is much better to make a film on 8mm. (as doubtless you already do) than not to make one on 16mm. (as Denys Davis has been so busily doing all these years).

A number of new readers regularly write asking me to comment on their films. This is something I am always pleased to do—but a preliminary letter is unnecessary. Just send me your film, c/o A.C.W.

FAULTY PRESSURE PAD?

UNSTEADY pictures can be caused by a number of things, and it is very difficult to diagnose troubles by post, but I suspect that those experienced by Mr. J. H. Bray of Peterlee may be due to a faulty pressure pad in the projector gate. He tells me that it is particularly noticeable with new

films. New 16mm. prints often tend to stick in the gate, but I have never heard of this happening with 8mm. One new film lost its lower loop six times.

Mr. Bray found that "slight pressure on the top loop with the forefinger helped the film to run more smoothly, and now it runs quite steadily, apart from the last few feet." He checked up on his camera and projector gate-to-claw distances, suspecting unevenly spaced sprocket holes, but found them to be identical.

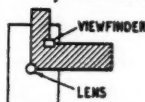
As trouble has also been experienced with library films, I have suggested he takes his machine to his dealer. This is always the simplest way of dealing with such troubles, for it is easy for the dealer to run the suspect film through another projector—or to try running a film of his own through yours. Certain projectors tend to have certain failings and your particular trouble may be well known to him already.

There is, for example, one dual projector which tends to scratch the wider film because a sprocket guide needed for the smaller rubs the middle of it. It is unlikely that your attention will be drawn to this when you buy, but, if you try to sell it, a knowledgeable dealer will casually enquire whether you have had any trouble. Another reason for being guided by A.C.W. test reports!

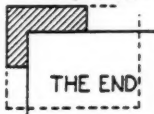
Mr. Bray has a further problem; his drill for running off the 4ft. of leader on Kodachrome is to use 1ft. for threading, then to run the camera for 15 seconds. But, he says, "my pictures are commencing about 2ft. after the first perforations. Can you point out my error?"

No, I can't, but if the wasted 2ft. are completely unfogged, the cure is simple; run the camera for five seconds instead of 15 before starting.

My Pet Gadget by Double Run



Cut card to suit dimensions of camera.



Dotted lines show area seen in viewfinder when it is aligned with outer edges of card (which is, of course, removed before title is filmed).

HERE are two that I have found useful. The first comes in handy for repairing films that break in the middle of shows: it is known as a roll of adhesive tape.

The second is a parallax correcting card. Its width should be equal to the horizontal distance between the centre of the camera gate aperture and the centre of the viewfinder. This is simplest found by unscrewing the camera lens. Its height should be equal to the vertical distance between the same two points. It is used as shown in the diagram.

If the viewfinder is alongside the lens, only horizontal compensation is necessary. If it is directly above the lens, only vertical correction is needed.

All that matters is that you get the results you want—and the simplest way of finding how, is by trial and error.

"Finally," he writes, "has this gadget any value? I use a vacuum flask cork which fits nicely into the tube of our vacuum cleaner. I fit a piece of neoprene tubing through the cork to make a miniature vacuum cleaner . . ." and what do you think he uses it for? To clean the camera and projector gates! "It is," he claims, "an improvement on the usual 'puffers' which merely blow the dirt from one place to the next."

THE MOST attractive feature of the new *A.C.W. Diary* for me is the 30 page section devoted to one's own filming records. There are columns for the shot number, the type of shot (L.S., M.S.

or C.U.), the subject, the footage exposed, the stop number, conditions and remarks. If conscientiously filled in, this should become a most valuable guide—and in fact, it could even be used for scripting, as provision is made for as many as 150 shots. It will be useful for test shots, too. Hitherto I have scribbled down data about these on odd pieces of paper that were invariably lost before the film came back from processing. Now I'll know exactly where to find them.

The comprehensive data section at the start of the diary contains just about all the cine information I am ever likely to require—as well as some I won't. 8mm., naturally enough, has rather more attention paid to it than the less popular gauges.

A Movie Maker's Diary By DENYS DAVIS

11th October. The post brings a further issue of the *A.C.C. Screen*, Johannesburg Cine Club's monthly magazine. Yet again one of the advertisements features a picture of a Berthiot Zoom lens, proudly, boldly and—upside down! These lenses are tricky enough to use right way up, let alone standing on one's head. Their performance is reasonably satisfactory, but the trouble lies with the viewfinder, which is attached to the lens, so that there is nothing to prevent the complete assembly from swinging around from a true horizontal position. It seems that a simple locking device would be quite easy to add and certainly most users would welcome the improvement.

This particular lens has one other characteristic which, while not a fault, is extremely awkward for anyone used to studio filming with, say, a Mitchell. The image in the viewfinder remains sharp no matter what the focus setting. Peering through the lens inevitably leads the operator to suppose that he is checking the focus setting as well as the set-up. This is not so and it takes a conscious effort to check this point on every shot. So a 16mm. zoom lens is definitely not recommended for the over-rich amateur who thinks money and not constant practice makes good films. In the right hands, however, it can vastly improve compositions right through a film, particularly travelogues and sports pictures.

11th October. Attracted by a particularly good display of indoor lighting equipment in a cine dealer's window in Bedford. It's probably a long time since we old hands bought any light stands or reflectors, for this is the sort of gear that, once you've got it, you've got it for always. The reasonable prices surprised me because, when I was assembling my own indoor lighting equipment, I couldn't afford to buy very much

so had to build it. Back in the hotel that night, I scanned the *A.C.W.* advertisement pages and was quite surprised to find that many of my ideas of costs were out of date. I was also surprised that so few dealers advertise the details and prices of our basic requirement—the film itself. True, the prices of outdated stock were stated but not those for the lovely fresh stuff that clips through at such an alarming rate.

Perhaps the trade now prefers to draw a veil over the real cost of this hobby. Yet those of us who have been making films for years know that the price we have to pay is quite reasonable when measured in terms of the pleasure we get; that four minutes on the screen is a long, long time and that a good deal can be packed into them.

14th October. I'd for a long time expected that Paillard would eventually revamp their famous H.16 camera. We are seeing so many versions of it that one wonders how many permutations remain before they bring out a completely new 16mm. model. Possibly the turretless model will be the last to use this very reliable design. I had a 9.5mm. version of the camera which was later converted, quite successfully, to 16mm., though it was rather an expensive way of working up to Paillard's best. But I sold it for a rather strange reason. I disliked such a lot of camera teetering on a base smaller than a penny. I thought it awkward then and still do. What is more, I objected to having to pay for a squared-up base as an extra gadget. So a word in the ear of Mr. Bolex and a gentle hint to Mr. Paillard . . . Would you remember this when you bring out a new model?

20th October. See, if you can, a French film called *Le Beau Serge*. It contains some of the most excruciatingly bad pan and tilt work yet seen on a professional screen. It also contains many, many beautiful shots in a village and inside real homes. It could have been made by amateurs with very little equipment and a handful of photofloods—but amateurs with a love of the cinema and something fresh to say. What's more, it was!

MY PET GADGET by Denys Davis

PUTTING a film away for a month after you have completed it, and then screening it, can reveal many mistakes which weren't apparent on earlier screenings, but if you can't wait a month, turn your back on the screen and watch the film through a small mirror. You'll be astonished by the number of errors which hit you in the eye.

Why I Changed . . .

Amateurs give their reasons for choosing the equipment they are now using

We hope you will know us better than to suspect that, in inviting a cross-section of our readership to contribute to this symposium, we carefully hand-picked them to ensure that leading manufacturers got a fair crack of the whip. We want to make it clear that we did not know what their latest purchases were nor, in most cases, the gauge used. Indeed, some well known names do not get a look in, and for a very simple reason. We pointed out that, since we could not forecast what the replies would be, there was bound to be considerable duplication, and that however

many contributions were received on any specific make, we could use only one. In the event, many readers told us that their latest acquisitions were of such popular make they felt they would only be repeating what others had written! In this symposium the advocacy of specific apparatus is really only incidental. The important thing is that it points the value of assessing one's requirements. Your needs might be different: getting a clear idea of what they are is what matters.

Eleven Points about Projectors

As a replacement for my faithful but noisy projector, I looked for a machine incorporating all its good points but which would also run quietly. I also bore in mind that A.C.W. has pointed out the desirability of matching claw-to-gate separation for picture steadiness, of low voltage lamps for greater brilliance and of provision for a tape synchronising device. In order to ensure that I would not miss any salient features, I listed them in what I considered their order of importance: 1. Definition. 2. Picture brilliance. 3. Picture steadiness. 4. Quiet running. 5. Cool running. 6. Accessibility for cleaning. 7. Variable speed. 8. Tape synchroniser. 9. Mechanical rewind. 10. General appearance. 11. Portability.

I could not find a projector fulfilling all these requirements exactly, but the Eumig Imperial came nearest to doing so. Only on cleaning accessibility and the tendency for splices to pass noisily through the gate can it be faulted. Otherwise, I think it first-class. It combines good optical efficiency with sound and yet imaginative mechanical design, giving a very compact machine utilising a low voltage, a low cost lamp that gives extreme brilliance and, above all, it runs very quietly.—ROGER MOON.

Dry Scraping

UNTIL two years ago I was a confirmed "wet scraper" of splices, but after reading the 1956 Christmas edition of A.C.W. I realised that there was a wide range of new splicers on the market using dry scrape. Precision and speed of operation were what I demanded if I was going to make a change, with the secondary consideration that the instrument should be able to handle all gauges. Before finally committing myself I examined through a watchmaker's eyepiece the surfaces of film from which the emulsion had been removed by dry scraping and compared the thickness with a micrometer of both wet and dry scraped film.

Eventually I decided on a Marguet with built-in dry scraper which, although appearing less well-finished than some other makes, produces extremely well-aligned splices, while the automatic trimmers are a great boon. The feature which endeared itself to me more than anything else, though, was the built-in dry scraper. I have now made hundreds of splices on my Marguet and it has speeded up a tedious job tremendously. The splices are reliable and well-aligned, and owing to the accuracy of the scraper (which, being built-in, is always ready for use), I am not troubled with white flashes on the screen.—LEONARD O. BIGGS.

Kind to 8mm.

MOST 8mm. film users will be acutely aware of the surface damage and scratches which seem to appear from nowhere on their tiny and precious films. Having one's better colour films copied is not yet the answer for this gauge. Good though the results are, there is a definite deterioration in colour quality which the fastidious projectionist does not like to

see. It seemed to me that the answer here lay in a projector which, above all else, was kind to one's films, and so permitted continual showings of originals without building up a legacy of damage.

If one aims for consistent under-exposure of Kodachrome by about half a stop, and uses a very powerful projector lamp to punch light through the slightly denser film base, the net effect is to reduce the visibility of surface damage in comparison with the scene itself, without unduly distorting colour tone values. However, not many projectors will have the necessary light output for this slightly naughty procedure. Finally, I have begun to think in terms of adding a sound accompaniment to my 8mm. films. To achieve successful results, the projector should run really quietly—better still if it could run noiselessly!

I have owned three 8mm. projectors in all. The first two gained few marks under the headings I have described. Each in turn was traded in for something better, until I decided that the M8R was the projector which most nearly met the sort of specification I had in my mind. It is very easy on my precious family films, its optical system has the real punch needed for my slightly-denser-than-average exposure level, and its quietness in running is a joy. So four years ago it was a Bolex for me. It still is.—R. R. S. WHITE.

Tape Recording

MY "new" tape recorder is almost exactly a year old, and even now the satisfaction of making clean perfect recordings every time hasn't lost its novelty. Many weeks of thought, indecision and counting of savings went into the choosing of my present machine, and very nearly every available recorder was heard, examined and weighed up. It had to produce consistently high quality recordings free of hum and background; it had to have low and high inputs for ribbon or crystal mikes and a gram or F.M. tuner input.

Monitoring facilities had to be provided for the ingoing signal and, above all, it needed to be completely reliable and robust enough to stand frequent journeys to halls and meetings without damage. It had to conform, naturally, with standard practice of recording on the top track first so that interchange of tapes from home and abroad was possible; for this was a major shortcoming in my old instrument—an Ace recorder made by Associated Cine Equipments of Bexley. An excellent machine in all other respects, it was made before the days of standardisation, and recorded and played back "the wrong way round."

Eventually the choice narrowed itself down to two possibilities both having a Wearite tape deck (thus satisfying the reliability clause) and both capable of producing recordings of professional quality. I chose the Vortexion B, and have never regretted it for a moment. It has had constant use, never given a moment's trouble, and is completely hum- and background-free even at maximum modulation.

The point, I think, that swayed the decision in its favour was the provision of the third head and an off/on switch for erase cut out. These made the superimposition of speech on music for sound tracks very simple indeed, and several tracks may be laid one over another without great loss of the previous recordings. By using the third head, incoming signals can be monitored before they reach the recording head—a great advantage when two tracks are being mixed into a third.

The only disadvantage is its weight. It is heavy to carry, and transport is essential to use it anywhere other than at home. But if I had to choose, as I did, between lightness and quality, I would choose quality every time.—LESLIE S. GILLHAM.

Single Run Spools

I ACQUIRED my present camera because I lost access to my father's when I married, and had to buy one of my own! Although this was hardly a technical reason, it was certainly a very practical one. My camera is an 8mm. Univex fitted with an f/3.5 Wollensak lens in a fixed mount. The Univex is probably one of the smallest cine cameras ever made, the overall dimensions being $4\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{1}{2}$ in. Its great disadvantage is that it takes the now obsolete single run spools, each holding a little over 30ft. of film, but to my mind, this drawback was balanced by the fact that it was in first-class condition; and yet I paid only £3 10s. for it from a well-known London dealer.

The salesman was fair in pointing out its limitations. He also explained that Gevaert 8mm. double run black-and-white film was scored down the middle and could easily be split and respooled. Gevaert won't accept the film in this condition for processing, but I find this no great snag as home processing has always been a part of my hobby. Some laboratories cut off the leader and trailer before processing, whereas by loading and unloading in the dark I am able to obtain at least 60ft. of 8mm. film from each nominal 25ft. double run spool. This could be considered an economic justification for home processing! Certainly home processing has made it possible for me to film with a minimum initial outlay.—T. C. CHURCHER.

Constant Speed for Sound

I CONSIDER that 8mm. projection equipment should possess four features: precision engineering; a lens that will do justice to 8mm. film; maximum illumination with minimum loss of light; quiet running. Incidental to these important items, I required a projector driven by a constant speed motor, plus some means of sound-coupling for tape.

I had experimented with sound-stripe and made several holiday films complete with musical background, effects and spoken commentary, but I was not completely satisfied with the standard of sound reproduction. I changed over to tape, but the variable speed projector I then possessed created problems and complications with synchronisation. Neither was the 500 watt illumination up to the standard I required.

My present machine, my fourth, I consider to be the ultimate

In presenting a useful range of equipment, with demonstrations, a club display, such as that arranged by Stoke C.S. for a local hobbies exhibition, can powerfully assist the hesitant to make up their mind.

in projection equipment. It is the Zeiss Movilux 8B, and fulfils all my requirements, i.e., the workmanship is immaculate, it has the new high intensity 50 watt 8 volt lamp (by which means I have quite easily projected on to a 6ft. screen) and it is driven by an induction motor with three image frequencies—16, 18 and 24 f.p.s. It is extremely quiet in operation and has provision for synchronising sound from tape, either from an ordinary tape recorder or from the Zeiss Moviphon equipment which I intend to purchase in the near future. The motor can also be switched on without burning the lamp, which obviates the necessity for keeping a stock of projection lamps!

I shall certainly make no further changes in projection equipment—unless, of course, we are suddenly confronted with sound and picture on tape at a cost which will suit my pocket!—W. J. JONES.

Interchangeable Lenses

I CHANGED from a fixed lens, single speed 8mm. camera to my present Noris 8D because of its interchangeable lens, variable speeds and—biggest boon of all—backwind. The slow speeds of 8 and 12 f.p.s. gave me the opportunity of shooting indoors, and tackling other badly lit subjects that before were impracticable; at 12 f.p.s. movement is not unnatural. The higher speeds give me a choice of 24 f.p.s. (if I ever get a stripe projector and want hi-fi sound), 32 f.p.s. (for the gravitational effects in science fiction films and seascapes) and 64 f.p.s. (which is useful, but expensive in film consumption). When you pass the baby on the lawn stage, speeds and the single frame facility become important. Many a static landscape has been saved by single frame, giving fast moving clouds with shadows racing across the scene. And try filming rain and sand blowing across the beach at 8 f.p.s.! Varying speed makes the ordinary exciting.

Now that converter lenses are available for wide angle and telephoto, and price is about the same, interchangeable lenses do not seem as wonderful as they used to be, but they still have their points. Further, second-hand standard lenses fit most cameras, whereas converter types mostly fit only one make. A lens should stop down to f/22 for making fades; few do, but the Westarit in my Noris does, and this, coupled with the backwind, produces professional-like dissolves and double exposures.



All the film can be wound back, if need be, without fear of a jam. These effects, although (as should be the case) unnoticed in the finished picture, make it flow instead of plod. They are the punctuation marks of film.

The accessory shoe takes the exposure meter and my CinemaScope viewfinder. I use a HiloScope anamorphic for wide screen, and film little without it. After wide screen, the old 4:3 format seems flat and uninteresting. The o-o-o-hs and a-ahs from the audience when the masking moves back to show "This is HiloScope" make it worth every penny I paid for it. And it's British-made. In all, the Noris 8D has been a very rewarding piece of equipment. I have never regretted buying it.

My other equipment consists of a Eumig P.8, with its amazing bulb (I show HiloScope on a 8ft. x 4ft. silver screen and it is brilliant), a Grundig T.K.5 for sound with my Phonomat, a Sixtomat x3 exposure meter, and a converted 624 G.B. titler. And I use a tripod whenever possible. I owe everything to A.C.W.: for the advice and encouragement to work harder at my hobby and improve my films—and for a low bank account.—ANTONY STAPLETON.

Stripe the Only Answer

IN MY view, stripe is the only practicable means of getting sync., even though the quality may leave something to be desired, particularly with 8mm. So I was extremely interested in the latest Ciresound projector. The projector I was then using had excellent optics, and was in almost every way a fine machine, but it was a silent model. I was not prepared to forego its advantages for the sake of sound alone, but a side-by-side test proved the Ciresound to have slightly better screen illumination (it uses the new 12 volt, 50 watt lamp).

The quality of the sound is as good as that of any average priced radiogram and the reproduction is completely free from wow, due mainly, of course, to the fact that the projector has two motors. Recording is quite simple, and sound and music can be effectively mixed. The projector can be stopped instantaneously, i.e., without any running-on—particularly useful in sound-stripe recording, since one recording following another may be made without any re-lacing or gap in the accompaniment, for the machine immediately attains its running speed from rest. I find the straight-through amplifier facilities particularly effective and useful.

The price is somewhat high, but not much more than that of a first-class projector, tape recorder and synchronising device. Of course, a tape recorder can be helpful, but the majority of my recordings have been made direct from microphone and one record turntable, and one can manage this operation entirely by oneself.—D. BENN.

Exposure Problems Solved

HOLIDAYING together in Ireland last year, my sister (recently returned from Kenya) and I brought our cine cameras. I had, in addition, a light meter. The weather was dull and many of the scenes we filmed were in dark bogland areas. I used my light meter carefully and passed on the readings to her, but she was not satisfied with many of them and generally opened up another stop. She was right, too. My films were underexposed, hers normal. I have ruined a lot of film in this way over the years but salvation was at hand! This year I disposed of both camera and light meter and bought an f/1-9 Autostat 624EE.

The change has been rewarding, for after a minor adjustment I am now getting as perfect exposures as one could wish for. This, in turn, has eliminated the tedious task of cutting out poor film, or leaving it in and making lame excuses. I also seem to be

getting more film back from processing—a point I am unable to explain, but it all adds up! So now for me it's no more fumbling for the light meter, the often indecisive readings, the adjustment of the iris, while the sun goes in or the scene changes and is lost for ever.—J. D. CONDON.

Thoughts about Starvation

I SHOULD say that practically all of us change our equipment for one reason: our financial situation. At the age of eight I used a hand-turned Pathe, advanced to a Pathe B, changed to a 16mm. Ensign Autokinecam and ultimately acquired a Bolex H.16. And there I stick, for I know of no better camera at the price. (I also have an Auricon 16mm. sound film camera, but my lip sync. films have not been a success.)

The same tale can be told of projectors: Pathe hand-turned, then super attachment and motor, Pathe 200B converted by Cinesmith in 1939 to 16mm., finally one of the first-class G.B.-Bell and Howell Filmsons. Indeed, I have two of these in my small theatre at home, in addition to the original 200B. A similar story can be told of tape recorders, ending with the Grundig, and of lenses (from an f/5.6 fixed focus to—now—everything from a 10mm. f/1.5 to a 12in., including zoom). In every case it has been a matter of the cash I could manage to spare, after having made sure that the wife and kids were not starving and had a few pence to spend on their own hobbies.—HARRY BIRRELL.

No Change

I HAVE not changed my 8mm. cine equipment since I bought it seven years ago. I much admire the new and ingenious devices now being fitted to modern cameras, but I do not think they would help me to make better films, and that is what I want to do. I think the new low voltage projector lamps will do more than anything else to improve 8mm. pictures, for it seems to me that projection is our weakest point. I am, therefore, toying with the idea of changing my 400 watt projector for one of these new machines.—FRANK REDMAN.

Looking in the Crystal Ball

THE MAJORITY of my films are intended as souvenirs (of annual touring holidays) for screening within the home circle. Since numerous landscape shots are an essential feature, a high standard of definition is called for and, consequently, 16mm. stock provides an effective, though not inexpensive, solution. Alas, almost all the manufacturers, with an eye to sales potential of 16mm. apparatus beyond the amateur, tend to work to professional specification and charge accordingly.

The recent introduction of the new AyCee-W camera offers a long overdue item within reach of Mr. Everyman's pocket. This is a sturdily constructed, yet business-like camera styled on similar lines to that faithful veteran, the Stewart-Warner. To enable an economical start to be made, the basic body (less lens) is quoted at £25 (including P.T.). Specification: 100ft. spool loading capacity, normal or single perforated stock, highly accurate footage indicator, speeds: 16 and 24 f.p.s. and single frame, interchangeable lens standard mount. Optical extras at reasonable cost include viewfinder masks and fitted case.

The manufacturer states that a second Model-W (Advanced) will be released shortly, price to be announced. It will be almost identical in outward appearance but will incorporate backwinding and critical focus device. This manufacturer claims a maintenance and repair service second to none, with particular attention towards fair charges and promptness of execution.—CRYSTAL GAZER.

ALL THE BASIC DATA

This comprehensive section follows orthodox film making techniques by setting the scene with background information and then coming in close to high-light specific aspects of it, concluding with full instructions for making your own titlers. By H. A. POSTLETHWAITE.

A FILM without a title is like summer without the sun, which we all know to be incomplete and not altogether satisfying. Besides, if the audience is greeted at the outset by a picture of something or somewhere or someone, they may not realise immediately what it is all about and they are liable to ask one another, or carry on whispered conversations which spoil things for others. So every picture should have a main title, even if it is only "Family Affairs, 1958," and the title should last long enough on the screen to enable the viewers to fix their attention, and to let the projectionist make any slight adjustments of framing or focus that may be needed: say ten to 12 seconds, which is 4 to 5ft. of 16mm. silent film, or 2 to 2½ ft. of 8mm. film.

A neat device is to start with a picture of a scene, or even of people, let it run for four or five seconds and then superimpose the title, fading the lettering in and fading it out after a further ten seconds or so; the picture already begun will then continue as the first scene in the film. But more about that later; it isn't difficult, but the picture behind the title must not be too interesting or significant. It is exasperating to watch a scene that seems important half obscured by the lettering of the title.

The kind of thing that would be effective is a long shot, without any panning, showing a distant figure advancing towards the camera. The scene and the figure would be established before the lettering appeared, and provided there was no change of action, the picture would not demand much attention while the words were on the screen. As soon as the lettering faded, the figure, now closer to the camera, might do something to start the story going—break into a run, or wave a greeting to someone who would appear in the next shot, or merely lift his head so that he could be recognised.

The film should have a few seconds of "The End," too, to let both the projectionist and the viewers know it is finished. After "The End" you can, if you like, give credit titles, naming the people who have helped to make the picture. This is the best place for credits, which can seem too pretentious if given after the main title, and can be irritating by holding up the action. You can add, too, the year in which the film was made, if this hasn't already been indicated. In five or ten years' time it may be interesting to know just when it was shot; and, of course, if the projectionist doesn't want to show credits or date, he can switch off before "The End" has run through.

Sub-Titles. Sub-titles may be needed to help the film to tell its story clearly, even if there is a spoken commentary; but they should be used only when really necessary, and should be as brief and precise as possible. Broadly speaking, one second should be allowed for every two or three words; rather more for place names and unusual words, less for short words—and short words are best. Minimum two seconds.

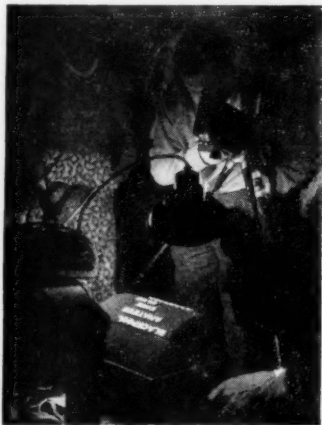
Only moderate ingenuity is needed to get a silent fictional film to tell its story without any sub-titles at all. Nobody nowadays shows a character

talking and then flashes on the words spoken, or interposes phrases of high sentiment. But a documentary or travel film will almost certainly need a few words here and there, and even in a family film it may be desirable (again thinking five or ten years ahead) to identify people and places. One baby may look very much the same as another, but relatives do like to identify them. It is much better to label a scene, "Jane's first piece of chocolate" than to leave it in doubt whether Jane wasn't really John.

Sub-titles need care. The temptation is always to use too many words. For example, in a film about a walk on the Yorkshire Moors, you *could* say, "From Keld we slogged through rain and mud to Brough." Yet the film will already have shown something of Keld, and will surely give some suggestion of the rain and mud. So, "On to Brough," would be quite enough, and would look better on the screen.

When sub-titles are used, they should all be made at the same time so that they are consistent in size and type of lettering, background, lighting and exposure. It is distracting and even puzzling to have different kinds of titling in the same film.

Titler. There's nothing difficult about title making. If you haven't got a titler, and can't borrow one (e.g., from the local cine society) and don't want to buy or construct one, you can make quite effective titles by writing in chalk on a blackboard, or dark-coloured fence or wall, and filming what you have written. Any camera will do, but do use a tripod or some other steady support for the camera. Or you can erect your camera on a tripod so that it points to the floor, at a height of 2ft. or so, and film a titlecard



Blackpool A.C.S. produce revolving titles on a drum they have themselves made.



Two effective main titles—restrained, bold and neat—from current *Ten Best films*. "Evening Out" (by Francis Williams) is in colour and "Saturday Lunch" in monochrome. A good main title helps to put the audience in a receptive mood. A crude one makes them uneasy. Are they to see an amateurish as well as an amateur film?

immediately below. Or, without a tripod, you can perhaps rest the camera pointing downwards on a board with a hole to accommodate the lens, resting the board on a couple of boxes of convenient height.

But whatever plan you adopt, make sure the title card is at right angles to the line of fire, i.e., that it is absolutely parallel to the film in the gate of the camera. If it isn't, you will get the same sort of distortion that occurs when a camera is pointed upwards at a tall building. A spirit level rested on the back of the camera will be useful when you are shooting downwards. And, of course, the lens must point directly at the centre of the title.

Obviously, a well-made titler is easier to use than a hook-up. There will be a firm support for the camera and a holder for the title card which will ensure that the title can be correctly framed and centred, and the lettering straight, without reliance on the camera viewfinder. But it is just as well to check up by test before making a set of titles with untried apparatus.

The camera viewfinder, unless it is of the through-the-taking-lens type, will probably not be accurate at the short distances required for titling, so when titles are made with a make-shift device, it will be necessary to find by experiment (using a card on

which several concentric rectangles have been drawn, or something similar) whether, when the finder covers a certain area, the taking lens covers a slightly different area. If this is so, allowance must be made in future.

The well-made titler will also have provision for lamps in suitable reflectors, which means that it is easy to repeat a lighting arrangement and use with confidence a lens aperture that has proved satisfactory before. With a hook-up, the exposure meter will have to be consulted every time.

The horizontal type of titler has the advantage that the camera can be made to approach or recede from the title smoothly, and lamp positions are easy to adjust. It is also convenient if small model figures are to be filmed, either separately, or by standing them just in front of the title card and including them in the title.

The vertical type permits loose letters to be used without the risk that they will fall off the background card, and makes it easy to alter or add to a title while one is filming it. For example, a title of loose letters may be wiped off the board with a ruler while the camera is running; if this is filmed with the title card upside down, and the shot spliced into the finished film backwards, the words will seem to be wiped on to the screen.

Title Cards. The title card may be of almost any size; titles may be made by filming typescript at 15 to 18in., but this always looks what it is; it may be acceptable in a strictly factual film of the how-to-do-it kind, but it does not look good if the film has any pictorial merit.

The smaller the card, the closer the camera. With the normal lens of an 8mm., 9.5mm. or 16mm. camera, the size of card covered will be approximately as follows:

At 18in. ...	7in. × 5½in.
" 21in. ...	8in. × 6in.
" 24in. ...	9½in. × 7in.
" 27in. ...	10½in. × 8in.

You can work out for yourself the approximate distance for any desired size of title card thus: divide the width of the card by the width of the picture on the film, and multiply by the focal length of the lens. For example, a title card measuring 8in. × 6in. is 200mm. wide; the picture on 16mm. film is roughly 10mm. wide. So the distance from camera to title in order to fill the frame, will be 20 times the focal length of the lens; if this is a 1in. lens, the distance will be roughly 20in. (21in. is more accurate, but 20in. is good enough for practical purposes). What this amounts to is that the distance from camera to title card should be, as nearly as makes no matter, 2½ times the width of the card for a 16mm. camera with the normal 1in. lens, or an 8mm. camera with a ½in. lens.

In general, a fairly large card, say 10in. wide, is to be preferred to a small one, particularly if sets of loose letters (felt, plastic, wood or metal)

are used. Half-inch letters on a card measuring 8in. × 6in. can be overwhelming when projected; ¼in. letters on a 10in. card look much better, and, of course, you can get more words on the screen, when you want to, without cramping them.

Easy-to-read type is better than a fanciful script, and the card itself must be devoid of sheen; if it isn't, you will sooner or later get white patches on the screen where you don't want them. Thin felt of black or green stuck to a piece of stout card makes a good background for applied letters; the black felt is ideal if lettering is to be superimposed on a scene.

When filming in colour, beware of a red background, which many people find much too fierce; green or blue is better. And don't muddle colours. If you have ever seen a title in which letters or words were of various colours, you will certainly not want to imitate it.

Titles can, of course, be drawn by hand; but be careful about using a white card. It will give the same unpleasant glare when projected that you get if you let a film run out of the projector before switching off the lamp.

Letters must be in good alignment and accurately centred and spaced—which sounds simple but may cause a headache or two. A ruler of thin card, marked off in inches right and left from the centre, can be a help.

A neat layout is half the battle—and that generally means plenty of space round the words; but in trying to be concise, don't use abbreviations. Spell out "and," for example—don't write it "&."

Camera and Lenses. Any camera can be used for titling. If it has a fixed-focus lens, or one that does not focus down far enough, a supplementary lens will be needed. This is attached in front of the camera lens, and when it is used, the picture will be sharp for an object at a distance from the front of the supplementary lens equal to the focal length of that lens, the camera lens being set for infinity. If the focal length of the supplementary is 24in., the title card must be at 24in., neither more nor less, measured from the front of the lens. An out of focus title is an abomination.

Titling can normally be done at the usual shutter speed, but a speed of 8 f.p.s. will permit the use of a small aperture (close down one stop) if you have any doubt about focus, or the light is not very good, or if you want depth of field in order to include small objects placed in front of the title card.

A shutter that provides for single exposures is useful for some trick effects, such as tracking shots, but make sure, by test, that a single exposure lets through the same amount of light that is passed at normal filming speeds. It may possibly pass more

light, necessitating a smaller stop for single-frame filming.

Provided the lens is accurately focused, there is no reason why straightforward filming of titles should not be done at full aperture; and you can check that focus is correct by measuring with a ruler from title card to the front of the supplementary lens, or from title card to the plane of the film in the camera when no supplementary is needed. With a constructed titler, marks can be made on the camera track to indicate the exact camera position for a given size of title card; and if the lamps are always arranged in the same positions, the same aperture can always be used with the same type of film.

As already mentioned, the camera viewfinder will probably not be reliable at the short distances used in titling until you have discovered by test just what allowance must be made for parallax. And when using the finder, care must be taken, even though it causes a crick in the neck, to look through it straight; if the eye is not directly behind the finder, it may take in a different area from that seen when it is used properly.

Lighting. When the weather is suitable, titles may conveniently be made by daylight, out of doors or near a large window; if the window is to one side of the title, a large sheet of white card on the other side will even up the lighting. Sunlight can be used; if the letters have depth, as in the case of felt letters, and the background card is not too dark, they will cast little shadows that can be effective. The texture of the background may also be brought out. But generally speaking, good diffused daylight is best.

Exposure will be determined by a meter reading from a piece of medium grey card in the title position, or even from the palm of the hand. Don't take a reading from the actual title if it has a very dark or very light background.

Lamps must give even lighting—unless, of course, you want to imitate sunlight by using a spot in addition to other lamps. In constructed titlers, lighting may be by two 100-watt lamps in re-

flectors, one on either side of the title card. The position of the lamps will be adjustable, and for most purposes they should be placed so that the light falls on the card at an angle of about 30 deg.

Hundred-watt lamps will have to be fairly close to the title—within 12in. or so—to permit of a reasonable aperture. If they do not give enough light, photofoods may be used, but in any case care must be taken that the reflectors screen the light completely from the camera. Lamps can be fitted on swivels so that they can be swung aside to make a fade (but again, taking care that the light does not reach the lens).

With an improvised set-up and artificial light, the arrangement of lamps should be similar, i.e., two lamps of equal strength, in reflectors, at equal distances from the title, one on either side, making an angle of about 30 deg. with the card. If ordinary photofood reflectors are available, it may be necessary to supplement the reflectors by pieces of card to shield the light completely from the camera.

Fading. Fades are desirable in the main title and in "The End," and can be made by other ways than swinging the lamps—by means of a fading glass, for example. This is a strip of glass spattered with black so that it is clear at one end and opaque at the other; for a fade-in, the opaque end is held in front of the lens as the motor is started and the glass gradually drawn across for the first two seconds of filming. A fade-out is the converse. This can be done by the camera operator unassisted, but even the clear end of the fading glass may reduce the light somewhat, with a slight jump in brightness of the picture at the end of the fading.

Another method is to vary the aperture of the lens, taking care that there is absolutely no movement of the camera. To fade-in, filming is started with the lens at its smallest aperture and the lens gradually opened up to the correct aperture for full exposure. It is desirable to have an assistant for this job, for the camera must remain steady, and it is possible that on some lenses the iris will not close far enough to fade out completely. An additional iris diaphragm that will close fully, fitted in front of the lens, is the ideal, but expensive.

Titles in Colour. With Kodachrome, the appropriate type of film must be used for daylight or artificial light, or a correction filter put on the lens. Daylight film exposed to artificial light without a

filter will have a strong yellowish tinge; with a No. 80A filter (blue) it will be correct, but this requires six to eight times the exposure (open up $2\frac{1}{2}$ to 3 stops). Artificial light film, however, may be used in daylight with a No. 85 (ginger) filter at the same speed as daylight film, and will give equally pleasing tones. So if you want to superimpose white lettering on a scene shot out of doors in colour, and film the title by artificial light, use artificial light film with the No. 85 filter for the outdoor scene, and no filter for the titling by 100-watt or photofood lighting.

Superimposed Titles. There can be no doubt that superimposed lettering is most effective for the main title. It is absolutely essential that the camera shall be rock steady for both the lettering and the background scene, which may be part of the film or a copy of a still photograph or picture. If there is the least camera shake at either stage, the lettering will float up and down on the screen most unpleasantly.

The film will, of course, have to pass through the camera twice, so unless the camera has provision for winding back, it is best to film the lettering first at the beginning of a spool, remove the spools from the camera in the dark and wind the film back by hand, reinsert in the camera and then shoot the background scene. The lettering should be

white on a dead black background; black felt or felt paper is satisfactory; black card is not.

Exposure for the title will be normal. For the background picture, exposure should be cut down slightly, i.e., close down half a stop. Make sure that the part of the picture on which the lettering will fall, does not coincide with a very light part of the scene, such as the sky.

It is not possible with reversal stock to superimpose black lettering on a filmed scene by double exposure; if you really want that effect, it can be obtained by painting black letters on a still photograph. Another method that has been used and described in *A.C.W.* is to paint the lettering on a sheet of glass, erect this 2 or 3 ft. in front of the camera, and film a moving scene with the lens stopped down to bring both lettering and scene into sharp focus.

Tricks. Besides superimposition and fading, there are many ways in which titles can be made to look different: wiping in and out, by drawing a black card across the lens; wiping, by drawing titles on the pages of a book and turning over the leaves; tracking, by advancing the camera towards the title as it films, or by shooting two or three frames at a time and pushing the camera forward an inch or so in between exposures, on an absolutely smooth track, of course, and with adjustment of focus as the camera nears the title; animation,

by moving the letters a bit at a time with single frame shooting—best done in reverse with title card upside down; animation by introducing just in front of the title card tiny puppets which are similarly moved a bit at a time; flap-over titles made by means of a double-sided title card pivoted so that it can be reversed quickly while the camera is running; mixes, by fading out one title, rewinding the film, and fading in another title on top of the first; continuous titles, by writing them on a long card which is drawn along smoothly in front of the camera.

This can all be quite fascinating to do, but too much of it can be boring on the screen. If you want to go all out on fancy effects, use them to make a trailer—genuine or spoof—extolling a film to be shown next time, or next year, sometime or never.

Simplicity and good taste should be the key-notes in straightforward titling. Trial shots, to make sure the camera is doing what you want it to, will often repay the trouble. They can be taken on the final few feet of a spool, or they can be made on cheap "disposal" film. It need be developed to a negative only, and as only a few inches are needed, processing should present no difficulties. Negative titles can, in fact, be used in the finished film and may look quite good, provided the film is of standard thickness and does not run out of focus when projected. Unfortunately, it frequently does.

Titler with Camera Location Carriage

Designed by W. G. Wall

I WANTED a simple titler, for filming 8×6 in. title cards, in which the camera would always be accurately lined up, no matter how many times it was put on and taken off. This meant that the camera platform of the titler *had* to be designed to suit my particular camera; also it had to have adjustments—for initial setting-up—which could be locked and would remain in place. Further, it would be helpful if the camera door could be opened when the camera was in place on the titler to allow me to put a piece of matted (sandpapered) film in the opened gate and check the image with a magnifier for size and alignment.

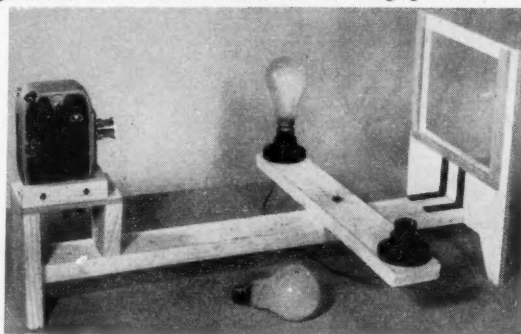
The first part to be designed was the camera platform. This is made of stout ($\frac{1}{2}$ in. thick) plywood, with an L-shaped raised edge ($\frac{1}{2}$ in. high \times $\frac{1}{2}$ in. wide) around the front and the winding side of the camera. "Three point adjustment" is used for setting the camera position: one screw through the front of the L, and two screws through the side. The camera is put in position by placing it into the angle of the L, firmly against the three stop screws.

These adjusting screws are $\frac{1}{4}$ in. Whit., $\frac{3}{16}$ in. long grub screws, with Allen type hexagon socket heads to suit the special adjusting key, but screws with screwdriver slots would do as well. I drilled the holes for these screws with a $\frac{5}{16}$ in. drill, then tapped them $\frac{1}{4}$ in. Whit., using an ordinary metal tapping tool held in the usual holder. The

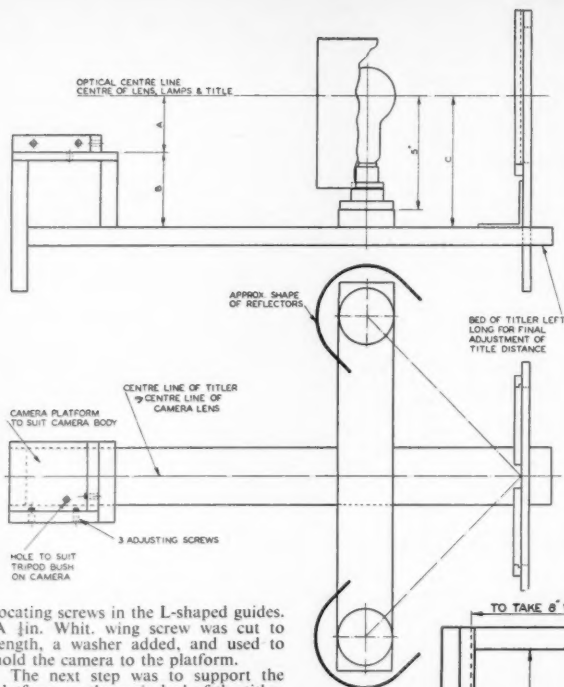
screws can readily be sealed after adjustment by blobs of sealing wax, or even a thick varnish or glue.

The camera having been approximately positioned, a piece of ribbed rubber matting (an off-cut from the handyman shop) was stuck to the top of the platform. This prevents the camera slipping about, without it being necessary to do up the fixing screw unduly tightly into the tripod bush. I stuck the rubber only on the part of the platform below the base of the camera, leaving the door overhanging the edge of the rubber. This allows of it being opened without disturbing the correct positioning of the camera.

The hole for the fixing screw was drilled in the base of the platform after the camera had been lined up as closely as possible to the expected final position. The hole for this fixing screw may be made appreciably larger than the screw itself (i.e., larger than $\frac{1}{4}$ in. dia., for normal cameras), so that it will not interfere with the setting against the three



Titler with lamp reflectors removed to show details of construction of main bed and title frame.



locating screws in the L-shaped guides. A $\frac{1}{16}$ in. Whit. wing screw was cut to length, a washer added, and used to hold the camera to the platform.

The next step was to support the platform on the main bed of the titler. Note that sufficient room must be left between them to manipulate the camera fixing screw from below. Besides requiring sufficient height above the base, it must be made large enough for the screw not to be too close to the supporting struts down to the base.

Before I could determine the height of the platform I had to consider both the height of the centre of the lamps when in their holders and the height of the title card holder.

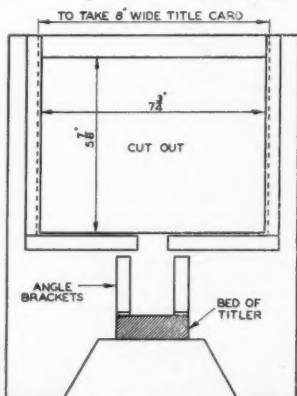
The centres of No. 1 photofloods (or 100 watt household lamps) in ordinary batten holders mounted on a $\frac{1}{8}$ in. thick crossbar, were found to come $5\frac{1}{2}$ in. above the upper side of the main bed. The height of the lens centre line above the camera base is $2\frac{1}{2}$ in. on my camera, so the top of the camera platform (including the rubber matting) had to be $5\frac{1}{2} - 2\frac{1}{2} = 3\frac{1}{2}$ in. The front supporting strut for the platform had to be kept well forward to leave plenty of room for manipulating the camera screw, the tripod bush on my instrument being near the front.

Final Adjustment of Distance

The distance between lens and title was calculated (see below) to be about 21 in. The main base was made of $2\frac{1}{2} \times \frac{1}{2}$ in. (finished) wood 27 in. long—which included a few inches extra to allow for final adjustment after test. The title frame was made from a piece of $\frac{3}{8}$ in. thick plywood size $12\frac{1}{2} \times 10$ in. The centre of the title comes $5\frac{1}{2}$ in. above the top of the main bed ($\frac{3}{8}$ in. thick), and I allowed 2 in. below the bed for the supporting feet. This brought the centre of the title $8\frac{1}{2}$ in. above the bottom edge of the 11 in. dimension of the plywood. The wood was carefully cut away to lie with a snug fit on the main

Left: showing general arrangement of titler, which can easily be made to suit any camera. Dimension B will be such that, when added to A (camera base to lens centre line), the sum equals dimension C, which is the height of the centre of the title and of the lamps. The length of the main bed depends on the camera and lens (see text). Note that the title and lamps are centred on the bed. The camera platform is made to suit the instrument in use and to bring its centre line also on the centre line of the bed.

Below: the title frame is made from a piece of $\frac{3}{8}$ in. thick ply and fits over the bed (shaded). If desired, a $3\frac{1}{2} \times \frac{1}{2}$ in. metal plate can be screwed across the frame below the main bed, to retain it for convenient sliding adjustment initially.



bed (shaded area in sketch of title frame). With this arrangement, the title frame can readily be slid to and fro along the bed to get final adjustment of distance. The frame is finally fixed in place with two angle brackets about 2×2 in. I fixed these angles to the frame only, and then used a flat strip screwed from side to side of title holder just below main bed, tentatively holding frame to bed, but leaving it easily adjustable.

Reverting, however, to the making of the title frame, I decided to have a hole right through it, so a $7\frac{1}{2} \times 5\frac{1}{2}$ in. aperture was made in the plywood, on the same centre lines as the title card (i.e., at the stated height, and centrally across the width of the frame, for the optical axis is being kept central on the titler). The aperture behind the card enables things

to be photographed through the frame. Books, maps, etc., can be held against the back of the holder, while it can also be used to frame and position objects (such as flowers) for close-ups. In addition, a transparent cel with plastic letters can be used in the slots, and a coloured or pictorial background behind.

These slots are made of wood of L-section, fitted as strips at either side of the card, and overlapping its side edges by $\frac{1}{2}$ in., to retain it. I used plain wooden strip as a stop on which the bottom of the title card rests; a 1 in. wide piece was cut away in the centre as a finger slot for pushing a card up and out. This bottom strip should be only lightly fixed with panel pins at first, as it may be necessary to move it slightly up or down for final adjustment of title height.

The lamp batten holders (bayonet cap) are fixed at the ends of the 17 in. long, $2\frac{1}{2}$ x $\frac{1}{2}$ in. cross piece. The $2\frac{1}{2}$ in. dimension was chosen because they are generally $2\frac{1}{2}$ in. dia. The front of the cross piece carrying the lamps is positioned approx. 5 $\frac{1}{2}$ in. back from the title holder.

If shiny titles (e.g., on cels) will be used, the lamps can be brought rather closer to the title, so that they are not reflected in it when viewed from the camera position. The cross piece bearing the lampholders was wired up with ordinary twin flex of 5 amp. capacity, the wires being brought out through holes in the cross strut below them. The two lamps should be wired in parallel, the mains lead going into one lampholder, then out and across to the other. The cross piece is fixed to the main bar with a coach bolt $\frac{1}{2}$ in. Whit., 2 in. long, with a nut and washer below the bed. This permits of easy dismantling.

The reflectors are made from round tins, about 4 $\frac{1}{2}$ in. dia. and 7 in. high, and cut with snips down the front, an angle of about 135 deg. being cut right out. The cut sides nearest the centre of the titler can be bent slightly outwards so that they cannot mask the light from the opposite edge of the title. Note that

MATERIALS REQUIRED:

- 4ft. of $2\frac{1}{2}$ x $\frac{1}{2}$ in. (finished size) wood.
- 1 sq. ft. (approx.) of $\frac{1}{2}$ in. thick plywood.
- 18 in. of L-shaped wooden moulding (see text).
- 9 in. of $\frac{1}{2}$ x $\frac{1}{2}$ in. (approx.) flat wooden strip.
- Nails, screws, etc., for assembly.
- 2 batten lampholders, B.C. fitting.
- 2 lamps, No. 1 photoflood or 100 watt pearl (see text.)
- 3 yards (more if longer mains lead required), two-core 5 amp. flex.
- 2 tins for making reflectors (see text).
- 1— $\frac{1}{2}$ in. Whit. thumb screw $\frac{1}{2}$ in. long, and washer, for camera fixing screw.
- 1— $\frac{1}{2}$ in. Whit. coach bolt $2\frac{1}{2}$ in. long, with wing nut and washer.
- 2 angle brackets 2 x $2\frac{1}{2}$ in. size.
- 1 flat metal strip $3\frac{1}{2}$ x $\frac{1}{2}$ in. (or $\frac{1}{4}$ in.).
- 1 small piece rubber matting (slightly larger than camera base).

these side flaps screen the bulbs from the lens—always essential.

The base of the tin was not cut, being left the full circle, and a central hole $\frac{1}{2}$ in. dia. cut to fit the lampholders. After cutting and shaping, the tins were painted on the outside with a reasonably heat resisting black enamel. The insides were left the bright tin-plate of the original metal. I plan to add a plastic channel strip around the sharp edges; in this position it should not be affected by the heat of the lamps.

The titler is now ready for a trial at the estimated lens-to-title distance, which was calculated thus:

$$\text{Lens to title distance} = \frac{\text{Focal length of camera lens}}{\text{Photographed width of card} / \text{Width of projector aperture or with my camera lens of } \frac{1}{2} \text{ in. focus on 8mm. film}}$$

$$\text{Photographed width of card} = \frac{\text{Width of projector aperture or with my camera lens of } \frac{1}{2} \text{ in. focus on 8mm. film}}{0.5 \times 7\frac{1}{2}}$$

$$\begin{aligned} \text{Lens to title distance} &= \frac{0.172}{2 \text{ in. approx.}} \\ &= 0.086 \end{aligned}$$

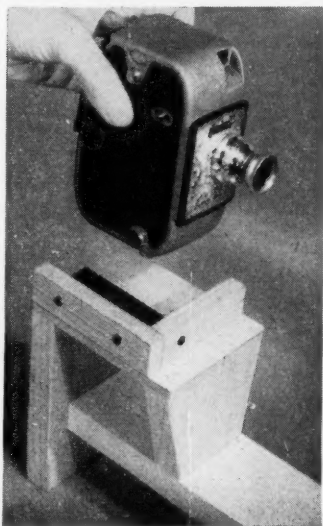
As the lens is fixed focus, I attached a Plus 2 Dioptre (No. 2) supplementary lens over it. Most dealers stock or will obtain these lenses, which cost only a few shillings, plus about the same amount for a holder to fit the camera lens. They are generally meniscus shaped, and are used with the convex side facing the title. Cameras with focusing lenses do not need a supplementary. Set the calculated camera distance by measuring from about the centre of the lens. Then set the focusing scale, bearing in mind that cine lenses are scaled in distances measured from the film plane.

Set the camera in approximate alignment with the title, using the three setting screws on the camera platform, and keeping it well into the corner of the L they make. When you think it is correctly positioned, fix it by tightening the screw which holds it to the titler. Make and photograph an alignment test chart consisting of numbered rectangles carefully drawn, to provide a check on centring and photographed area.

Checking Alignment

This test can be made in a few seconds of film running time, whenever you have a roll of film in the camera. Alternatively, if the pressure pad can be removed, alignment can be checked visually by putting a piece of matted (sandpapered) film or tracing in the gate, held with adhesive tape, with the shutter open (run down the spring if need be, first). The image on the matt film or tracing paper will show the exact area and alignment photographed. Use a magnifier when checking this. Visual lining-up saves film—and time—by giving an instant answer even while the settings are changed. This is

The camera platform has L-shaped guides with three adjusting screws. The camera is positioned in the corner of the L, against the three screws which locate it accurately every time.



the advantage of being able to open the camera door without disturbing the alignment.

When you have determined either photographically or visually that the correct size of title area is being photographed, or have adjusted it and re-tested, the angles can be screwed to the main bed, thus fixing the title frame permanently. The surplus couple of inches of the main bed, outside the title frame, are finally cut off and the camera adjustment screws locked with varnish or sealing wax. The whole titler can be stained if desired. Black shoe dye gives an excellent finish, especially for the frame.

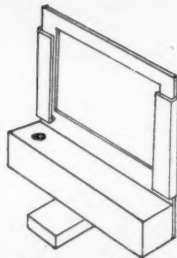
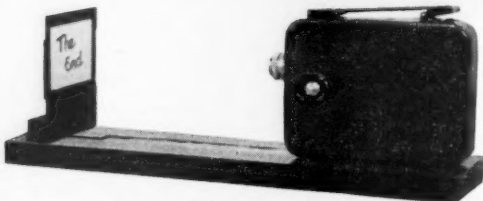
Using the Titler

For black and white film I use two 100 watt pearl

household lamps. Medium speed pan film (e.g., Super X) will be correctly exposed at about $f/4$. Kodachrome Daylight film requires $f/2.8$ with two No. 1 photofloods and a Wratten No. 80 filter over the lens. For Kodachrome Type A (no filter required) an aperture of $f/5.6$ is about right.

Remarkable effects can be achieved quite cheaply with the coloured background cards stocked by many art shops. I got a number, and some exotic looking book papers too, from F. G. Kettle, of 23 New Oxford Street, London, W.C.1. Letters about $\frac{1}{16}$ in. high should be used for the 8×6 in. title card. If they are not the adhesion kind, the titler can be used as a vertical model if the surplus length of the main bed outside the title frame has been cut off.

Simple Horizontal Titler for Indoors and Out



THE FIRST step in the evolution of this titler, made for use with a fixed focus Kodak 8mm. camera, was to decide on the size of title card, and this in turn was dependent on the focal length of the supplementary lens to be used. The design illustrated is for two types, one using a 4 diopetre lens and the other a 3 diopetre. The latter is much easier come by in photographic shops. Often a friendly optician will produce what one wants from an old pair of spectacles. Type 1 will take $3\frac{1}{2}$ in. \times $2\frac{1}{2}$ in. title cards; Type 2, $4\frac{1}{2}$ in. \times $3\frac{1}{2}$ in.

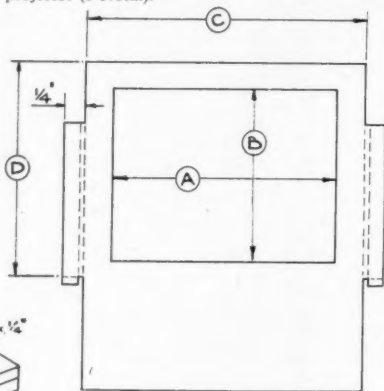
The baseboard consists of four pieces of wood pinned and glued together, with a hole for screwing into the tripod bush of the camera at one end and a locating block to prevent the camera twisting on the screw. The title holder is made from a piece of dural sheet 22 s.w.g., screwed to a block of wood and screwed and glued to a further piece of wood which is a sliding fit in the baseboard channel. To bend the channel in the title holder, I used a steel rule to get the right amount of clearance between the flanges. The dotted lines indicate the position.

Before making final adjustments, it is a simple matter to align the centre of the title cards with the lens, by sliding the title holder up to the camera. Paint matt black all over, except for the channel in the baseboard, to eliminate the possibility of flare. A retaining peg inserted through the block on the title holder and a hole in the baseboard ensures that the titles will always occupy the same position. For special effects, the holder may be slid right up to the camera, or vice versa.

The titler can be used out of doors or with artificial light, and is very useful when big close-ups are required. The enthusiast might like to know the formula on which it is based:

$$d = f \left(2 + \frac{x}{y} + \frac{v}{x} \right)$$

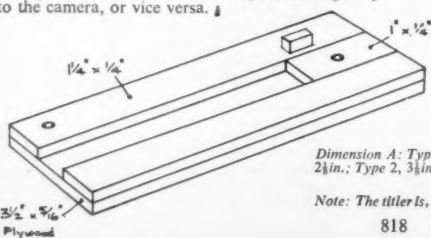
where d is film-to-object distance (Type 1, 9.25 in., Type 2, 12.75 in.), f =focal length of camera lens, x =width of title card, y =gate width of 8mm. projector (0.173 in.).



Designed by B. A. STAIT

Dimension A: Type 1 (see text), $2\frac{1}{2}$ in.; Type 2, $4\frac{1}{2}$ in. Dimension B: Type 1, $2\frac{1}{2}$ in.; Type 2, $3\frac{1}{2}$ in. Dimension C: Type 1, $3\frac{1}{2}$ in.; Type 2, $4\frac{1}{2}$ in. Dimension D: Type 1, $2\frac{1}{2}$ in.; Type 2, $3\frac{1}{2}$ in.

Note: The titler is, of course, equally suitable for cameras with focusing lenses.

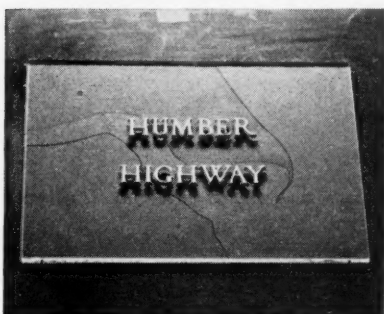
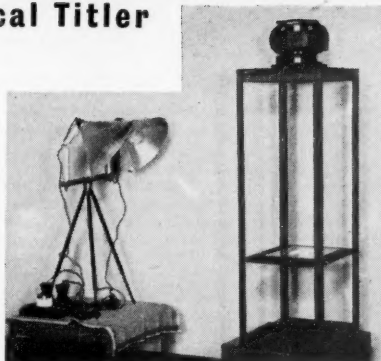


Top Lighting with Vertical Titler

"THE TITLES to be photographed should be lighted evenly from both sides." How often this dictum is thrust at the amateur! Nearly all commercial titling outfits are supplied with lights that produce this result. No still photographer would consider flat lighting for any pictorial effort. Why should our titles not have some pictorial quality?

For some years I have used top lighting—that is, lighting falling on the upper edge of the title as seen on the screen—for all types of titles. It is particularly effective when solid white letters (metal or plastic) are used. They should preferably be set up on a piece of $\frac{1}{4}$ in. plate glass covering the selected background. The shadows below the letters give an almost stereoscopic effect in both colour and monochrome. The bottom edge of the background will be slightly deeper in tone, giving a base for the title.

Exposure depends to a certain extent on the colour of the letters, *not* on the background. If



Title set up and lit in vertical titler shown in col. 2.

solid white letters are used, a card with an off-white matt surface is placed on the title board, and the meter reading taken from it. With coloured letters, take a reading from a matt surface of similar colour. For any form of black lettering on a coloured background, the meter reading is taken directly from the title.

The lights are quite separate from the titler, so offering considerable flexibility. For colour, two photoflood lamps are generally used; for black and white often one is sufficient. They are so arranged that the central ray forms an angle of not more than 45 deg. to the horizontal, thus preventing any reflections from the glass. (I always use plate glass over stencilled or similar titles to keep them flat.) Any variation from side to side or top to base in the lighting intensity is corrected by moving the lamps slightly.

Don't use the lights too near the title, or the result will be too harsh; and don't use dark coloured letters (e.g., dark blue), for the shadows will blend with them and may make them indecipherable.

D. C. RAMSDEN.

TRY THIS INDOOR LIGHTING SCHEME

HERE is a lighting set-up using three (or four) lamps that can be adapted to almost any subject. Position your subject and line up the camera for the view you wish to take. Set the main light on the right hand side of the camera and two-thirds as far from the subject as the camera-to-subject distance (looking towards the subject); place it higher than the subject, so that it shines down at an angle of about 30 deg. Next, adjust it sideways by placing it where it shines on the subject from 30 deg. to the side. It should

then be safely outside the angle of view of the camera. Make sure it is!

Now set the fill light, on the left of the camera and almost alongside it; it should be slightly higher than the camera and a few inches behind it so that the light from the side of the bulb does not shine into the lens. Finally, set the background light (two lamps if you have them and if they seem necessary to light the background to about the same level as the main subject).

EXPOSURES WITH PHOTOFLOOD LAMPS

	Close-up	Med. close-up	Mid shot	$\frac{2}{3}$ -length	Full length
Camera-to-subject distance ..	6ft.	9ft.	12ft.	18ft.	24ft.
Approx. field of view ..	28 × 21in.	42 × 31 $\frac{1}{2}$ in.	56 × 42in.	84 × 63in.	112 × 84in.
Distance, main light to subject ..	4ft.	6ft.	8ft.	12ft.	16ft.
Distance, fill light to subject ..	6ft.	9ft.	12ft.	18ft.	24ft.

Photoflood lamps

Film:	No. 1s	No. 2s	No. 1s	No. 2s	No. 2s	No. 2s in pairs	No. 2s in pairs	No. 2s in fours
Kodachrome Type A ..	f/1.6	f/2.2	—	f/1.6	—	f/1.6	—	—
Kodak Super X ..	f/2.2	f/3.2	f/1.6	f/2.2	f/1.6	f/2.2	f/1.6	f/1.6
Kodak Plus X Reversal ..	f/2.5	f/3.5	f/1.8	f/2.5	f/1.8	f/2.5	f/1.8	f/1.8
Pathoscope VF ..	f/2.5	f/3.5	f/1.8	f/2.5	f/1.8	f/2.5	f/1.8	f/1.8
Gevaert Ultra Pan ..	f/2.8	f/4	f/2	f/2.8	f/2	f/2.8	f/2	f/2
Kodak Tri-X Reversal ..	f/5	f/7	f/3.5	f/5	f/3.5	f/5	f/3.5	f/3.5

These f numbers assume the use of parabolic reflectors of average efficiency. Poor reflectors or old lamps may require slightly wider lens apertures. The distances refer to the set-up described in the text. Photoparl 500 watt lamps (not suitable for Kodachrome) require one-third of a stop wider lens aperture than No. 2 photofloods. Camera speed: $\frac{1}{16}$ f.p.s.

Odd Shots

By GEORGE H. SEWELL, F.R.P.S., F.B.K.S.

Gremlin's Field Day A little while ago I wrote to one of the biggest, most reliable apparatus manufacturers asking them to let me have a piece of new apparatus for test. It came and I tested it. Oh dear! The lens had gone wrong somehow, and a vital control device appeared to have been incorrectly set. The results were disastrous. Yet the firm is equipped with the most up-to-date apparatus for production and inspection, has a quality control department, and takes every reasonable precaution. It was just one of those things. There was a gap in the organisational machinery, and this one item had slipped through it.

I didn't blow up because I still remember one of my early experiences. I was about to give my first important show to the board of directors of my firm. So important was it that I elected to do the projecting myself. Everything was set. I pressed the starter button—and the darn film ran out backwards. I hadn't noticed that one of my assistants, in giving the machine a last minute check-over, had clicked it into reverse.

Bright Idea Have you ever had to face the problem of showing gas flames on the screen? I learned the other day that excellent results can be obtained by introducing a fine spray of a ten per cent. aqueous solution of strontium chloride into the air-intake of the gas burner.

Grading Colour Film One of the more important factors in obtaining the best possible print or dupe from an original is proper grading; i.e., the adjustment of the exposure to combat variations in colour balance from scene to scene. At the moment such refinements are not included in the duping of amateur films because of the cost, but they are widely used for professional work.

In black and white printing the work of the grader has been assisted by the preparation of Cinex strips—a set of single frames for each scene printed progressively by the whole range of printing values available on the particular printing system. The most appropriate printing exposure is chosen by observation of what, in effect, is a density step wedge, each step consisting of a single frame. In colour work the same function is performed by a colour pilot which not only shows ranges of printing density but also a range of known combinations of the three colour primaries. Again, personal observation is the basis of choice.

Now the Haseltine Research Corporation of New York, working with Pathe Laboratories, Inc. of New York, and AGA of Sweden, have developed a system by means of which the colour original is examined by the beam of a flying spot scanner. The signals set up by the red, green and blue components are fed to three

separate stabilised amplifiers and impressed on attenuators through which they pass to what is virtually a three-colour television reproducer. By operating the controls of the attenuators, the grader can vary the proportions of the three colour primaries until he obtains the desired effect on his tube viewing surface. Then calibrations associated with the attenuator controls enable him to set down the correct printer setting for the best possible result in the final colour copy. This result is obtained instantly and without the processing delay inherent in the other two methods.

Long Distance Runner An old friend, Arthur Green, Sales Manager of Specto Ltd., sends me a story of a Type A Specto projector. Converted from 16mm. to 8mm., it was bought second-hand eight years ago for £15 by Russell Orr of Hastings, New Zealand, who runs a film and projection hire service. From that time, until it was destroyed in a studio fire several months ago, it had coped with some 20,000 miles of 8mm. film with virtually no trouble, albeit it was operated by many different hands. Even now its remains are being cannibalised to provide servicing parts.

No Edge On It Apropos my recent remarks about edge fogging, another old friend, T. B. Sansom, who—as you will have seen from "Ideas Exchanged Here" recently—has been experimenting with the Pathescope Lido camera, writes that the 50ft. spools of Pathe 9.5mm. colour film he exposed in it, showed not the slightest sign of edge-fogging. "The last two were loaded in the open shade as a final test. As far as edge fogging goes, I think the Lido is the tops." He offers to loan these spools to interested readers.

Sound to the Rescue In one shot a Victorian shopkeeper stood at the door of his shop and gazed off-screen. In the next, a stage coach jogged along a country lane. The juxtaposition of the two suggested that he was mighty long-sighted. Bad weather had prevented us from getting the bridging material. The editor solved the problem by introducing on the sound track the distant note of a post horn, making the man's gaze into the distance perfectly natural.

MY PET GADGET by George H. Sewell

IT'S not much of a gadget, but used properly it can be one of the most valuable devices you have ever made. Cut an aperture 2in. x 1 1/4in. in a piece of heavyweight card about 2in. x 4in., then using the card as a template, inscribe eight rectangles on a sheet of quarto paper with a ballpoint pen. Then in each rectangle illustrate a shot of your script until you have built up each sequence pictorially.

At once a fuller conception of the proposed film will begin to crystallise; as vague concepts have to be faced up to, you will find small modifications and improvements creeping in. You will realise that some of the things you have scribbled will prove impossible to film satisfactorily, but you will also discover unsuspected opportunities. Continuity problems will become apparent since you will be thinking only of the ultimate screen effect.

No matter if your drawings are horribly crude and that nobody else can make head or tail of them. It's what they do for you in helping to sort out your ideas that counts.

How to Look at Pictures

For all his technical knowledge, the amateur is often far less likely than the layman to arrive at the real value of a film, says DEREK HILL

"DOESN'T it drive you mad, seeing all those films?" Or "I'm a critic myself, but nobody pays for my opinion." Or "What do you do in your spare time—go to the pictures?" Or "You go to criticise, but I go to be entertained."

Those are the four responses if the fact that I earn my living as a freelance film critic crops up in conversation with strangers. The answers to one, two and three are respectively no, ha-ha and yes. But number four invariably leads to a large-scale rumus.

For nearly every Monday morning finds me edging into the sixth row of the stalls eager to be entertained. Some Press shows, I admit, I attend with foreboding; and some, cowardly, I don't attend at all. But I don't go "to criticise." I hope and expect to be amused by a comedy, excited by a thriller, moved by a drama and absorbed by a documentary. Perhaps four years of anything up to 12 films a week have taught me not to set my hopes too high; but I am more anxious to be entertained than the most avid fan.

And that goes for everything from the latest multi-million wall-to-wall Hollywood epic to the last in the list of runners-up in a club competition. Basically, there is no difference in their aim, and no difference in the way one should look at them.

Yet the last thing anticipated by the average audience of amateurs attending a programme of films by other amateurs is entertainment. They are there to look for good camerawork, ostentatiously clever cutting and technical high jinks. Entertainment is as far from their minds as, say, art—which is frequently another word for the same thing.

"You can't judge amateur films by professional standards." That's the amateur's motto, watch-word and death-cry. It's accepted by virtually all cine enthusiasts and many judges. And it's probably that phrase, more than any other, which has kept amateur production in this country so rut-bound.

Why shouldn't an amateur adventure story be as gripping as a professional film of the same kind? Why shouldn't an amateur comedy be as funny or funnier than a professional comedy—which these days isn't much to ask? Excitement, humour, compassion, interest—qualities like these have nothing to do with the size of your cast, gauge or budget.

These qualities, incidentally, seldom if ever appear on those weird marking sheets which so many cine competitions use to decide on the "best" of the submitted films. How can they? Who could compile a marking sheet with a heading for every quality of every possible film? Yet many amateurs look at films with this kind of mathematical eye, categorising, sub-dividing totalling and subtracting, so that a series of

barriers is erected between them and the film's emotional impact.

This impact is the only true guide to a film's worth. It does not have to be startling or even immediate. Many of the finest films leave their audiences quiet and reflective, and make their final, deepest impressions hours after they have ended.

But surely analysis plays a part in assessing a film? If one is a critic or judge, this is true enough; and there is certainly a deeper satisfaction and enjoyment to be gained from knowing how a film maker has obtained his moods and effects. All this, though, is subsequent to the first reaction.

Let me put it another way. The cine enthusiast watching a family film might be thinking, "H'm, that shot's at least a stop under. And that one's out of focus. Oh, Heavens, he had a hair in his camera gate on that scene. And is it? . . . Yes, it is. . . . It's camera wobble. Hand-held, obviously. How the blazes did this one ever get an award?"

Your layman watching the same film, on the other hand, may be thinking, "This is really delightful. That child is a born actress—or perhaps she didn't even know she was being filmed. Look at the way she's trying to blow out those candles. I wonder what's in that cracker that boy's holding up to his eye?"

The layman, in this instance, is far more likely to judge the film's real value than the amateur, despite the latter's technical knowledge. In fact, it's precisely this technical knowledge which comes between the amateur and the film's subject. You can see something of the same sort of thing in some film appreciation groups, where a few members imagine that the test of a good film is in the originality of its camera angles or the ingenuity of its editing. Their hero is Orson Welles, not for what his films say, but for how they say it.

I'm not suggesting that the critic or judge should stop at the layman's simple reaction. But they should be sufficiently relaxed to let the film make just this kind of effect. In this case, they would have responded to the film's charm, but they would have automatically been aware by the position of the camera whether or not the sequence had been shot with the girl's knowledge.

The hair over the shot of her blowing the candles out would have been noticed, but ignored if the shot was an attractive one. The camera wobble, if it was only slight, might have been missed altogether if the boy with the cracker was genuinely absorbing.

Imagine the result if cine enthusiast, layman and critic got together after this film and tried to award it some kind of rating. The layman and critic would be basically in agreement; the

amateur would be dumbfounded. The list of faults he had jotted down might break every rule he had been told to observe. They might even be rules which the critic himself had advised him to follow.

But there's not really any contradiction here. Technical proficiency and an observance of accepted rules are excellent things. But they're not enough to make a good film, nor are their absence necessarily ruinous to a good film.

A few weeks ago, the National Film Theatre presented a French feature in the fifth Free Cinema programme which smashed its way contemptuously through any technical rule you care to mention. It didn't prevent *Le Beau Serge* being one of the greatest films I have seen. I didn't review it in *A.C.W.* because it seems doubtful if anyone will be able to see it. Even the French distribution hasn't been fixed yet. All the same, I'd like to refer to it here because it is a perfect example of balance between subject matter and treatment. The realism of the story has been allowed to dictate the film's style.

Briefly, *Le Beau Serge* tells of a young student who returns to his native village to find that his best boyhood friend has become a despairing drunkard. Determined to help him, but uncertain how, he stays on in the village waiting for the moment when he can give his friend some reason for going on living. His fumbling attempts at help exasperate his friend's family, the local priest, and finally even his friend. But ultimately he succeeds, and the film ends on a triumphantly affirmative note.

Claude Chabrol, the young French critic whose first film this is, has treated every sequence with hard, firm honesty. Not only do all the players perform with an apparent unawareness of the camera, even the lighting is naturalistic throughout. If a character walks into shadow, back into sunlight, and again into shadow, the

camera keeps the whole scene in a continuous shot. If light pours into a window on to the wall behind two principals so that their faces are lost in a near-silhouette, Chabrol keeps it that way.

This might horrify the amateur cameraman. (Most professionals, I think, would be a little jealous.) Similarly, the film's slow development might exasperate the man who has carefully learnt that the average shot lasts five to seven seconds and that few should last more than ten.

The trouble is that amateurs by and large believe that it's not what you do, it's the way that you do it. In fact, of course, the good film is a combination of both—something worth saying said in the most appropriate manner. And this is why there is no difference between amateur and professional aims, and why there should be no difference in the standards employed in judging their work.

What about resources? Paul Rotha gave the best answer to that one years ago when he said that the real test of a film maker is to give him a camera, put him in a ploughed field and let him make a film about it. "If you strip away all the spectacle, gloss and contrivance that disguise so many films," he added recently in *Films and Filming*, "and bring the cinema down to its basic simplicities—a man, a camera and a situation—you can see in five minutes if the man is really a master of his medium."

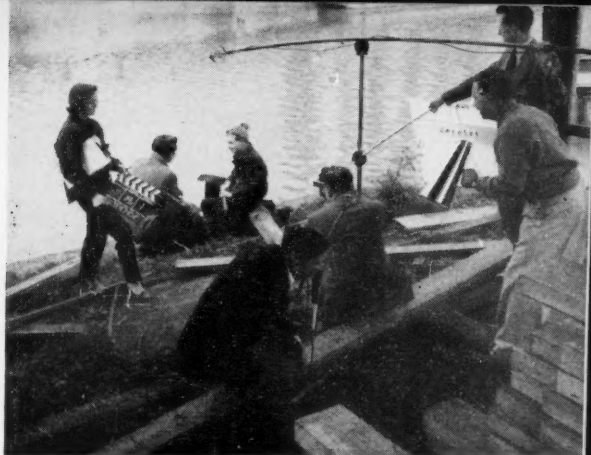
Formulae don't make good films, any more than they help in watching them. The favourite critic's maxim, "Have they done what they set out to do?" is only valid if you qualify it with a still more important question: "Was it worth doing in the first place?" Posing this question should not only help you in your film-going, but honestly applied at the appropriate moment, it ought to save a lot of time and money on worthless scripts!

Members of Pinner C.S. at work on an exterior night scene for their sync. sound film. A 500 watt spot with cone simulates the light of a torch held by the player. The microphone cable (the mike itself is just out of picture) can be seen going up the wall and along the guttering. An indicator lamp on the camera shows that it is interlocked with the recorder which used sprocketed tape.



Producing a Sync. Sound Film with Home-Made Equipment

Pinner Cine Society have just completed a synchronised sound film with the odd title (about which we hope they will have second thoughts) of "Falsely Murdered." As these production stills show, it is a notably ambitious venture, of a type seldom embarked on by the amateur.

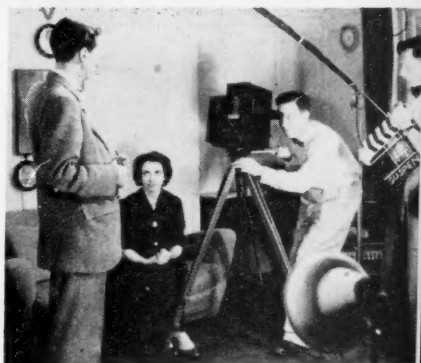


For this exterior, a guide track only was used. Recording was made on a Ferragraph and dialogue post synchronised at home.



Below: the only illumination for this interior was a 500 watt spot to suggest torch-light.

Reslo microphone suspended on a frame; the hood is of rubber sponge and felt.



Like the recording equipment, the impressive-looking camera blimp is home-made. Below: listening to the guide track recorded on location.



A Tripod for Less than Ten Shillings

THIS tripod cost me less than 10s. to make. For the head, you begin by drawing a $3\frac{1}{2}$ in. dia. circle on a piece of 1 in. hardwood. Then set the compasses to a radius of $3\frac{1}{2}$ in., and from any point on the circle inscribe an arc which cuts the circle at two points. You will thus have three equi-distant points around the circumference. Join them, forming an equilateral triangle.

From each "point" of the triangle, scribe an arc of $\frac{1}{2}$ in. radius, inside the triangle from line to line, i.e., across each corner of the triangle. Now from each end of each of these arcs, draw a line straight out, at 90 deg. to the side of the triangle it crosses. Continue the line out until it meets the circle. When this is completed, you will have each pair of lines parallel and $1\frac{1}{2}$ in. apart.

Cut away the three small curved pieces of wood, including the three corners of the triangle, as shown in the sketch. Now mark off each of the three protruding lugs with a line $\frac{1}{2}$ in. in from where the flat joins the circumference, and parallel to the side of the original triangle. Continue this line over the edge of the wood (the part recently cut), and cross it with a line half way through the thickness of the wood. Centre-punch the intersection, and carefully drill a $\frac{1}{16}$ in. clearance hole straight through the wood, keeping the hole exactly parallel to the original triangle, and exactly half-way through the thickness of the wood. Drill all three lugs in this way, ready to receive the hinge-bolts for the tripod legs.

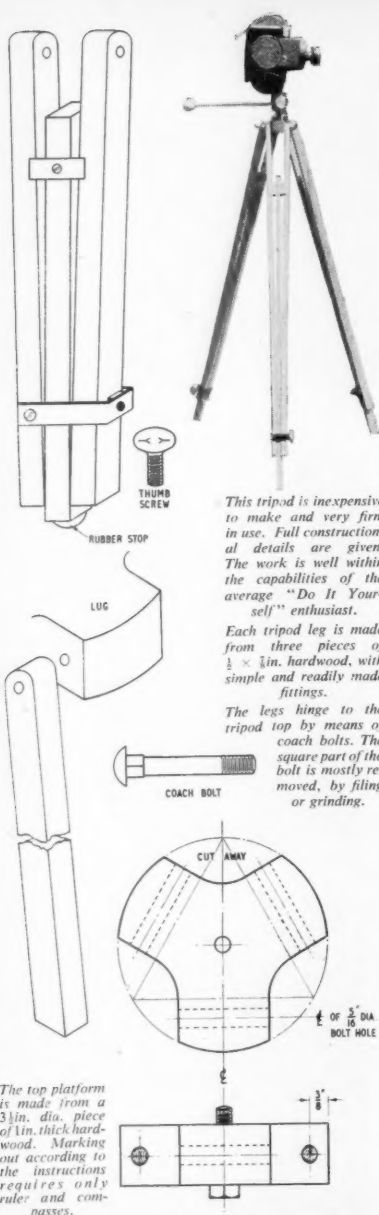
To Suit Your Camera

Fit a tripod screw by drilling a $\frac{3}{16}$ in. hole in the centre of the block, and screwing in a $\frac{1}{2}$ in. Whit. bolt $1\frac{1}{2}$ in. long. Or if you prefer a loose tripod screw that you can screw in, drill the block $\frac{1}{2}$ in. clearance. If necessary, shorten the tripod screw to suit your camera.

To finish off the head, rub over with sandpaper until the wood is perfectly smooth. Cut a piece of green baize or leathercloth to fit the wood, and glue to the top. Finally rub over with wax polish, or paint over with varnish.

The tripod legs are made from a good hardwood. You require six pieces, planed, $\frac{7}{8} \times \frac{1}{2} \times 33$ in. and three pieces $\frac{1}{2} \times \frac{1}{2} \times 36$ in. The latter are the centre legs by which you adjust the height of the tripod. On the one end you screw a $\frac{1}{2}$ in. dia. rubber buffer, as the foot on the floor, to stop the legs slipping. On the other end, screw two $1\frac{1}{2}$ in. long strips of $\frac{1}{2} \times \frac{1}{2}$ in. steel about $1\frac{1}{2}$ in. from the end, across each of the $\frac{1}{2}$ in. sides. These are the guides, and stop the leg from pulling out.

In each of the other six, you drill a $\frac{5}{16}$ in. clearance hole, $\frac{1}{2}$ in. from the one end, and round off the



This tripod is inexpensive to make and very firm in use. Full constructional details are given. The work is well within the capabilities of the average "Do It Yourself" enthusiast.

Each tripod leg is made from three pieces of $\frac{1}{2} \times \frac{1}{2}$ in. hardwood, with simple and readily made fittings.

The legs hinge to the tripod top by means of coach bolts. The square part of the bolt is mostly removed, by filing or grinding.

The top platform is made from a $3\frac{1}{2}$ in. dia. piece of $\frac{1}{2}$ in. thick hardwood. Marking out according to the instructions requires only rule and compasses.

MATERIALS REQUIRED:

- Hardwood 1 in. thick, large enough for a $3\frac{1}{2}$ in. dia. circle to be cut from it.
- Hardwood, 6 pieces $\frac{7}{8} \times \frac{1}{2} \times 33$ in. finished.
- 3 pieces $\frac{1}{2} \times \frac{1}{2} \times 36$ in. finished.
- 3 rubber feet, $\frac{1}{2}$ in. dia.
- 2 ft. (approx.) steel strip $\frac{1}{2} \times \frac{1}{2}$ in.
- 3 coach bolts $\frac{5}{16}$ in. Whit. $\times 3$ in. long, and 3 wing nuts to fit.
- 3 thumb-screws, $\frac{1}{2}$ in. Whit. and 3 steel nuts, $\frac{1}{2}$ in. Whit.
- 1 $\frac{1}{2}$ in. Whit. steel bolt $1\frac{1}{2}$ in. long, for camera screw.
- Sundry wood screws. Small piece green baize.

two corners around the hole. Next you require three coach bolts $\frac{3}{16}$ in. long $\times \frac{1}{8}$ in. Whit. and three wing nuts to fit them. File or grind off most of the corners of the square under the head. Push the bolts into the holes of three of the pieces of wood and hammer home. Assemble these into the tripod head and put on the other three legs, and screw on the wing nuts.

Now you need to make out of the same $\frac{1}{8} \times \frac{1}{8}$ in. strip three U-shaped clamps $\frac{1}{8}$ in. across the base of the U (inside), and about 2 in. long uprights, also inside measurements. In these two sides, $\frac{1}{8}$ in. from the ends, drill a hole to take a wood screw. In the base drill a $\frac{1}{8}$ in. dia. hole and tap this $\frac{1}{8}$ in.

Making a Pan and Tilt Head

THIS head fits readily to a wooden tripod of the type that used to be supplied with half-plate still cameras many years ago. There are many such tripods about today at very moderate cost. (This head can also be fitted to the tripod described above. Ed.) The panning movement uses the original tripod screw hole in the tripod top, a $\frac{1}{8}$ in. dia. coach bolt being used as the bearing. The metal stirrup for the panning movement is mounted on top of the panning member. Both movements can be locked off, or left free, or friction applied, as desired.

The first stage in construction is to cut a 2 in. dia. disc of $\frac{1}{2}$ in. thick plywood. This is screwed centrally to the original tripod top, and the original $\frac{1}{8}$ in. dia. hole carried through the plywood as well. A $\frac{3}{16}$ in. dia. disc of the same $\frac{1}{2}$ in. plywood is also cut out and drilled $\frac{1}{8}$ in. dia. centrally. A 2 in. dia. piece of firm felt material about $\frac{1}{8}$ in. thick is cut, and a $\frac{1}{8}$ in. dia. hole punched or cut centrally in it. These parts are now put on one side while the rest is made.

Cut to Length After Bending

The U-shaped stirrup is bent up from an 8 in. length of $\frac{1}{2} \times \frac{1}{8}$ in. mild steel strip, starting each bend equally from the centre of the length. This will work out slightly too long, so that the ends can be cut to the exact length required after bending. Steel strip of this thickness was found to bend in the vice cold, without any trouble, but if a brittle piece of steel is used, it should be annealed first by heating to red-hot, and leaving aside to cool slowly in air. If desired the strip may be bent hot, when it bends more easily, though is more difficult to handle.

The strip 2 in. wide having been bent inside the U, the ends are trimmed to make the U-shape 2 in. high overall, the upper ends being radiused off. The holes for the tilting movement screw are now marked carefully with an improvised height gauge scriber, with the U held upright on a flat surface. The hole on each side of the U must be exactly 2 in. above the base; if it is not the same on both sides the camera platform would lie slightly skew. When

Whit. Now solder a $\frac{1}{8}$ in. Whit. nut on the inside of each of the three U clamps. Fix these to the tripod legs about 1 in. to 2 in. up from the bottom, having inserted the third (centre, adjustable) leg screw in a thumb screw; measure it, cut it to length, allowing a little for riveting, take off the clamp, screw in the "cut-to-length-thumb-screw" and hammer over the last threads so that the screw cannot come out, and refix clamp to tripod. Treat the other two in the same manner.

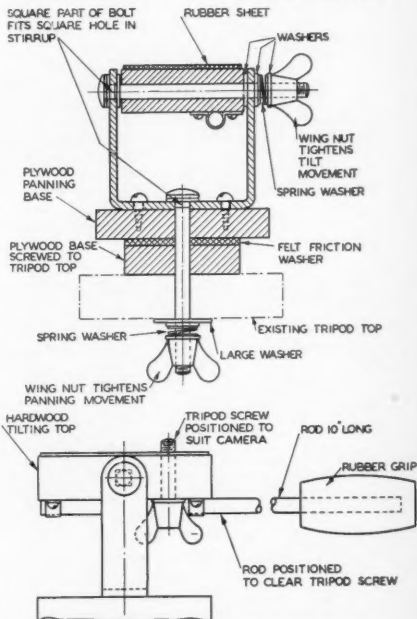
Lastly, to protect the wood, rub in a good wax polish, or paint with varnish; the wax polish is better as it helps adjustment and does not stick.

B. WOODALL.

the holes have been marked off, they are drilled $\frac{1}{8}$ in. dia., centrally across the $\frac{1}{8}$ in. width of the strip. A third hole is then made, centrally in the base of the U. The latter hole and one only of the two side holes are filed out to a square shape ($\frac{1}{8}$ in. sq.) ready to take the square part of the shank of coach bolts. Two $\frac{1}{8}$ in. dia. holes are drilled $\frac{1}{8}$ in. apart centrally in the bottom of the U, for wood screws.

A 3 in. long coach bolt ($\frac{1}{8}$ in. Whit. thread on at least the outer end hole.) is now taken, and tried in the square hole in the middle of the stirrup. If it

(Continued on page 846)



Top: a sectional view through the simple pan and tilt head. The U-shaped stirrup is 2 in. across inside, and 2 in. high overall. This pan and tilt head can readily be fitted to most wooden tripods. Note the felt friction material which gives a smooth panning movement.

The side view of the pan and tilt head shows how the tilting top is carried by the U-shaped stirrup. The 10 in. long panning handle has a rubber grip obtained from a motor cycle shop.

MATERIALS REQUIRED:

- 2 plywood discs $\frac{1}{2}$ in. thick; 2 in. and 3 in. dia.
- Felt $\frac{1}{8}$ in. thick; 2 in. dia. circle.
- Bright mild steel strip, $\frac{1}{2} \times \frac{1}{8}$ in. \times 8 in. approx. long.
- $\frac{1}{8}$ in. Coach bolts, Whitworth, 1 each 3 in. and $\frac{3}{4}$ in. long.
- 2 wing nuts, $\frac{1}{8}$ in. Whit., preferably brass.
- 1 wing screw, $\frac{1}{8}$ in. Whit., at least $\frac{1}{2}$ in. long (will be cut to length on job). Steel.
- 10 washers $\frac{1}{8}$ in. size, preferably rustproofed.
- 2 spring washers, $\frac{1}{8}$ in.
- Piece hardwood $3 \times 2 \frac{1}{2} \times \frac{1}{8}$ in.
- Sheet rubber (matting type), $3 \times 2 \frac{1}{2}$ in.
- Rubber handle, with about $\frac{1}{8}$ in. hole.
- Rod to fit same, approx. 10 in. long. Mild steel.
- 2 small brass saddles for fixing rod.
- Few wood screws.

Collector's Corner

By KEVIN BROWNLOW

At some time or another we have all cursed the policy which permitted old films to be savagely cut before their release on 9.5mm. But the situation isn't quite as bad as it could be. If you are lucky enough to obtain both the English and the Continental version of a multiple super reel film, you will often find material in one which is missing from the other. And by combining the two, the length, interest and the rarity of the film are considerably increased. But watch out for one pitfall!

The French version of, say, *Captain Blood* was not made from the same negative as the English copy, for distribution methods in the twenties differed totally from those of today. Instead of sending positive show-copies to distributors throughout the world, silent film production companies would provide a separate negative so that their representatives in England, U.S.A. and the Continent could print the required number of copies themselves, tint them and insert their own sub-titles. The negatives were seldom dupes. They were usually taken from the three cameras which, on most feature productions, covered each scene.

So don't try to combine two versions of the same shot merely because the one in the English copy is longer at the beginning and the French has more at the end. The shot may look the same at first glance, but the camera angle will almost always be slightly different.

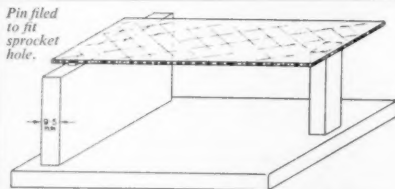
A SILENT film enthusiast in Australia, Mr. James A. Nash, of Pennant Hills, N.S.W., who works on 8mm., has—like many others—discovered a big disadvantage to the gauge. "The 9.5mm. fan," he writes, "can obtain a countless number of vintage films, whereas on 8mm. only a few are available. Why cannot Pathe, Walton, Adventure or others print such films as William S. Hart's *The Outlaw* on to 8mm.?"

Apart from obvious copyright difficulties, the main reason is lack of demand. I know that at least one of these firms, Adventure Films, has several silent films ready to release the moment a sufficient demand is established. But manufacturers realise that the amazing popularity of 8mm. demands that the cine photographer must be satisfied quicker than the home showman. To them 8mm. collectors do not exist. And I must admit that I know of no one with a sizeable 8mm. collection. Kodak Library's 8mm. features hardly ever reappear on the market, and no other worthwhile silents, apart from a wide range of Chaplins, have been released in this gauge.

But manufacturers and releasing firms are keenly watching 8mm. buying trends. Once they realise that silent films are required by a fairly large section of their public, the shortage will no longer be so acute. It is up to 8mm. enthusiasts to create the demand.

you may remember those two charming (but shrewd) old ladies in the Paris flea market I mentioned a few months ago. I often wondered how they managed to exist merely by selling old films. Now a friend of mine, just back from Paris, explains the situation. They depend on a turnover of stock each month for a regular income. From my list of thirty odd 9.5mm. films, my friend returned with just one! This came as a hard blow, even though the film was *Son of the Sheik*. For the two ladies had sold all the Gance films that I had hoped they were keeping for me. Charming—but shrewd!

I have just heard that Paul Panzer, one of the better-known pre-Great War I stars, who played in *The Perils of Pauline* and several early Vitaphone films, and who was also a pioneer director, has died in America, aged 86.



SEVERAL years ago I realised that to be a successful film maker one should not only be artistic—one should have a well-developed mechanical sense. Yet all my efforts to gain something more than a basic technical knowledge have proved fruitless. A mere glance of me is enough for intricate machinery to fall to pieces, and whenever I hopefully try to fabricate some electrical gadget, it invariably explodes and fuses the company's main. I am ashamed to admit it, but although I have the will to learn I just don't seem to have the ability.

So I particularly admire those who have acquired an expert technical knowledge, and whose gadgets work efficiently. And my favourite gadget is really someone else's—it was the brainwave of Dr. Richard Jobson. As a fervent 9.5mm. collector he is constantly acquiring rare items with torn or buckled notched titles. To preserve the films as far as possible in their original state he decided to copy the damaged title sections.

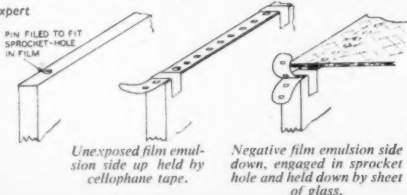
He constructed a wooden framework just 9.5mm. thick, with a locating pin to engage the sprocket hole. In a darkroom he fastened to the block a length of unexposed film, emulsion up, with two pieces of cellophane tape. The film to be copied was laid down with its emulsion next to the unexposed film, and its sprocket hole

MY PET GADGET By KEVIN BROWNLOW

engaged with the pin. He adjusted the alignment by feeling for any overlapping edges. With a sheet of glass preventing any movement from the two lengths of film, he placed a 60 watt bulb 4ft. from the block and switched on and off as rapidly as he could. He reckoned the exposure time to be about $\frac{1}{2}$ of a second.

In Kodak D163, he developed the reversal film, and produced a negative. Another exposure, and he obtained a positive almost indistinguishable in quality from the original title—and in far better condition. "I might add," says Dr. Jobson, "that I have produced a short length of 16mm. sound track by a modification of this method. A negative, of course, didn't matter in this case. But with one exposure the track was on the back of the film, and this caused loss of high frequencies."

The preservation of worthwhile films is an end justifying almost every means. And like so many good ideas, this method just couldn't be simpler.



Christmas Is Coming!

By D. LEGGETT

THE CARS drew up at a large building and we alighted, carrying a fair amount of equipment and with our coat collars turned up against the rain. We must have seemed a seedy bunch, for a policeman loomed up and asked, "Can I help you?" He spoke to our Treasurer, who normally looks a bit furtive, anyway.

If the Treasurer had not started violently and stuttered, he would have been believed but his "No. That is . . . No, thank you," left suspicion in the air.

"May I enquire where you are bound?" said the policeman, a Sergeant.

"To a show," said our Director, quickly.

"A show?" said the Sergeant doubtfully.

"A film show," our Director stated. "A charity film show," he volunteered, seeing suspicion still shining. "For Christmas!" he added, growing increasingly uneasy under the steely gaze.

The Sergeant reflected. "Ah!" he said, "It's you, is it?" and, as the Cameraman said later, our Director's face would have done for a high-light. "Well, I was asked to keep an eye open for you," continued the Sergeant. "The committee want you to go to . . .", and he gave a nearby address.

"The committee?" Our Director seemed mesmerised.

"The branch committee," said the Sergeant. "I'm a member of the . . ." He gave the name of the large national charity organisation we were helping.

"Oh!" said our Director. "Where was it?"

The police sergeant repeated the address, and we all crammed back into the transport, not thinking to ask the reason for the change.

At the new address all was light. Cheerfully we unwrapped ourselves from each other's necks and unstuffed the car boots until our Director said, "Get it back under cover!"

"What?" Lights sounded incredulous.

"There's a note on the door. It says back in ten minutes."

The equipment was locked in the cars and most of us crowded beneath a nearby bus shelter.

"Remember the last time?" Lights said, hands thrust into raincoat pockets.

"That's right!" said someone. "We made a film for them. They never paid us."

"That is not so," said our Treasurer. "They were very generous. We made quite a handsome profit in the end."

"Which is why we agreed to this show. Now back up! Christmas is coming," chanted our Director.

"Is it?" asked someone.

"Yes. There's a Kate with a key," said the Young Gentleman suddenly, and we all saw a cloak and hooded figure fumbling at the door. We rushed upon her, and she wheeled round terrified.

"Hullo!" said our Director, smoothly.

"What?" said the girl.

"We're showing the pictures," said our Director, smiling in his best cavalier manner. "Are you going in?"

She was, and in we trooped, a few stalwart porters bringing up the rear with the equipment.

"Right!" said our Director. "Try the projector there. It looks as if there's a port in the wall. Speakers there and there. We'll have that table up the other side of the projector for tapes and the dis. box. Good! Will you fix the power?" he said to Lights, and that worthy after consultation took the girl through a side door into darkness.

"I'm watching!" called the Y.G. and the door slammed.

"You would be better helping," our Director observed. "Would you fetch the screen from whatever car it's loaded in, please?" and our Younger Member departed, unabashed.

Gradually the hubbub of preparation subsided. The power was on, the tapes working and only the projector unread. "What's the hold up?" our Director demanded.

"The power is on," said the projectionist, a seasoned but meticulous worker. "We have the films inspected and ready. We have a spare . . ."

"Please," said our Director, "come to the point."

The projectionist stared through his port. "The screen isn't up," he said.

"Screen?" Our Director frowned. "That stupid young idiot!" and he bellowed the young idiot's name aloud.

"Ullo!" screamed the young idiot in reply.

"Where's," bawled the Director, then more quietly, "the screen?" he asked.

"I'm looking for it," said the Young Gentleman. "It wasn't in the cars, so I'm enquiring around, you know. You can never tell where anyone would put a thing like that."

"All right," said our Director. "Will everyone listen a minute, please?" and he asked us if the screen had been seen.

The problem was soon solved. It was established that "they" had agreed to provide the screen. The girl knew nothing. "They" were not present. There was no screen to be found.

MY PET GADGET by D. Leggett

If it doesn't make your teeth curl, my favourite gadget is a Bolex H.16. It is one of those things that seem commonplace among other people. Other than that, I still point the camera at the baby and hope, although I am reasonably sure of the exposure, for the one gadget I do use is a home-made light meter constructed from a kit of parts. It has proved as reliable as any Weston yet.

(Editor's note: We were also gratified to receive a contribution from the Budding Young Author of Cine Club Nights' Entertainment, sent—he declares—at the insistence of the club. It is a highly original idea for tape sync, and looks most impressive. Indeed, the only thing wrong with it is that it can't possibly work.)

and there was no time to go back for one. We looked about the long bare wooden hall and waited.

"Good idea turning that cloakroom into a projection booth," someone offered, but all he got was shrugs.

We waited and eventually they arrived, led by their Treasurer, whom we had met before. The pleasantries were soon over and they explained that the hall had fallen vacant and was much more suitable than the room they had in the other building, concluding with they had forgotten to tell us did we mind?

"No," said our Director, tonelessly, "but where's the screen?"

"The screen?" they said to each other, then told us it was a pity about it being damaged at the last minute, and did we have one?

"No," said our Director.

They wanted to know what to do. Our Director said, "Why don't you find a sheet?"

Strangely enough they did and nailed it up reasonably taut. "Looks good, doesn't it!" said our Director, bitterly.

"Big enough for Cinerama," said a wit.

"Oh, well, let show commence! Bring in the customers!" Our Director sounded resigned.

"They're here," the Sound Enthusiast remarked. "Look!"

The hall was rapidly filling. It was an all-ticket do, the proceeds going in aid of a local home for the aged, from which some of the audience had been invited. As the hall filled, fairy lights were produced and strung from wall to wall. A Christmas tree in a tub appeared near the screen. It blazed with lights.

The hall had filled. The tape of background music was almost done when our projectionist hissed, "They can't leave those lights strung across there. They shadow the screen." It took some time to raise them, and by the time the audience had heard the tape all but through again, they were not happy.

However, the first half of the show went according to plan, and after an interval while "they" sold ice cream, we started up again. We were well into the story film when everything went dead.

"What's wrong?" asked our Director, agonised.

"Search me!" said the Projectionist. "There's no juice."

"Of course there's juice," Lights rumbled in the dark.

"Keep your voice down," our Director hissed.

"Well, the tape's O.K.," said Lights.

"It isn't," came from the Fanatic.

"I tell you there's power because . . ." Lights fell silent.

"Well?" said someone, anxiously.

"There isn't," Lights said.

"So what's wrong?" Our Director was almost crying. "Shut up!" said Lights, and a chair crashed to the floor. A torch shone and began to creep along the supply cable. We followed it.

"Albert!" quailed a voice from the audience, "What's up?"

"They've run out of paraffin, dear," came an aged croak, and it cackled.

We had reached the plug. Lights was bent over it and we bent over Lights. It was a two-pin plug with spring-loaded adjustable width pins. It had been pulled from its socket. With trembling fingers and curses on delinquents who could not avoid a cable or plug, Lights squeezed the pins together, pushed and missed the sockets. He tried again, this time with both hands and all our will-power. He missed.

"Ada!" said the aged one, "They ain't run out of paraffin. Someone's snuffed the candle," and his cackle led a chorus of laughter.

"If I get hold of him I'll snuff him!" said the Young Gent fiercely. We did not remonstrate.

Now Lights had his fingers round the pins. He held them at the right width and, lining up with the sockets, thrust them in. We did not stop to investigate his yell of agony. We scrambled to the projector which had wowed and whirled into life.

But it needed no help. The projector was happy to reel off the rest of the programme.

The organisation had made a successful appeal and explained the sabotaged plug; the audience had left, including the old man still cackling, and we were muttering our apologetic good-byes when a voice said, "I would like to speak to the projectionist, please."

"Yes," said our Director.

"Ah!" said the voice, and we saw it belonged to the Sergeant. "Your cars," he said, "they're not very sensibly parked. They're almost on top of a bus stop."

"Are they?" we said.

The Sergeant said, "Yes," then, "but that's not what I came for. Will you give a show for a Christmas party?"

We looked at him. "It's worth a couple of quid to the club funds," he said.

"Oh, we could never take all that!" our Treasurer blurted; then seeing our startled looks, "Make it a pound," he said.

"Cor!" said our Young Gent, "Christmas is coming," but we had him in the car by then.

I.A.C. PRIZEWINNING FILMS

THIS year's I.A.C. prizewinning films are of a higher standard than has been seen for a long time in this oldest of amateur cine competitions. The *Daily Mail* trophy for the most outstanding film went to Mrs. and Mr. H. S. Day and G. R. S. Mee for *Passport to Paradise* (16mm., colour, stripe). This is a brave attempt at a holiday film with a difference, and it is ironic that, in seeking to escape from a familiar amateur framework, the producers should have ended up with a colourable imitation of a commercial which is no less familiar. Resort and hotel are diligently plugged in the well-worn story of the composer stuck for a finish to his piano concerto and the girl who gets a job as vocalist in a hotel. She gives a vivacious performance, and Majorca emerges as a very photogenic resort. The film is technically assured; it does not much matter that one cannot believe it, for it is easy on the eye.

Frere Jacques (50ft., 8mm.) by A. Boyd is a disarming little piece in which glove puppets carry out somewhat restricted movements interpreting the song. It is engagingly done and the sound track is delightful. In A. Bahcall's *The Tell Tale Heart* (240ft., 16mm., colour), the Poe story is given a whimsical turn by extravagant cartoon-like touches which sit oddly on the macabre theme, but pictorially it has style.

SILENT COMEDY TECHNIQUE

REVEALED IN SHOT-BY-SHOT ANALYSIS OF ONE OF THE MOST SUCCESSFUL FILMS OF ALL

... And if you don't intend going in for comedies, sit back and relax and enjoy this absorbing account as an incident-packed short story. But, however you approach it, you can scarcely fail to get practical benefit from the signposts to good film construction it records.

By H. A. V. BULLEID, M.A., A.R.P.S.

HAROLD LLOYD, with Bebe Daniels and Snub Pollard, had been working for two years on Lonesome Luke one- and two-reelers when, early in 1917, he had the idea of the "glass character" and donned the famous tortoiseshells. The first one-reeler was *Over the Fence*, directed by Lloyd after J. Farrell Macdonald had started but, unused to the comedy idiom, had given up. Thereafter, maintaining a schedule of one single-reeler per week, Lloyd directed them all for a few weeks, then alternated with Alf Goulding, and finally producer Hal Roach himself alternated as director with Goulding.

In April 1919 Roach signed with Pathé for nine two-reelers. After the second of these, *Captain Kidd's Kids*, Bebe Daniels left and Mildred Davis took her place. After the fourth, *His Royal Snyssness*, Snub Pollard left to form his own comedy unit. The fifth, *Haunted Spooks*, was delayed eight months during production by a serious accident to Lloyd, caused by the explosion of a bomb during the making of some special publicity stunts required by Pathé for launching the two-reelers.

The seventh two-reeler was *High and Dizzy*, a thrill picture, which was shot on a two-story set built over a street tunnel entrance, thus enabling the effect of being atop a ten-storey hotel to be secured by judicious camera-angles. The site had been previously used in the original of the Lloyd thrill pictures, a one-reeler called *Look Out Below*.

After the ninth two-reeler, *Number Please*, which was the last Lloyd film to be directed by Hal Roach, a new contract for six two-reelers was signed with Pathé, and Fred Newmeyer joined as director. Of these six only the third, *I Do*, remained in two reels: the first, second and fourth were three reels each, the fourth being *Never Weaken*, the next in the line of thrill pictures, shot on a set built on the roof of the Ville de Paris department store, Los Angeles. The fifth was *A Sailor Made Man* (4 reels), the sixth the famous *Grandma's Boy* (5 reels, English release 2nd April, 1923).

A Trail of Laughter

These two proved the demand for feature length comedies, and led to the signing in January 1922 of a new contract with Pathé for six pictures of five reels or more. *Doctor Jack* (5 reels, English title *Doctors Orders*, release 5th March, 1923) was the first, *Safety Last* the second.

This standard was maintained, and the silent screen was streaked with a trail of laughter by *Why Worry?*, *Girl Shy*, *Hot Water*, *College Days* (all Pathé); and *For Heaven's Sake*, *The Kid Brother*, *Speedy*; and the riotous first talkie, *Welcome Danger* (1929). Some quieter pictures followed, but Lloyd's bowing out was a graceful gesture to the old school in *Professor, Beware* (1938) and again in *Mad Wednesday* (1947, by Preston Sturges). These were all Paramount releases. Starting with *Girl Shy*, production was by the Harold Lloyd Corporation.

From this imposing list of comedy successes, *Safety Last* is probably the best and surely the most famous specimen. It contains grand examples of all the Lloyd gags and mannerisms: e.g., the final gag to tip off a series already thought to be complete, and the kindly politeness to the aged; and it gives us

flashes of Lloyd the nonchalant, Lloyd the hearty, Lloyd the uneasy, Lloyd the retriever of awkward situations.

Subtlety is not encouraged in the typical Lloyd routine, but there is the clear-cut and pleasant character caught in a succession of comedy situations of unparalleled heartiness and great ingenuity; and if the criticism is made that the effects are mechanical, then the answer is that they are steeped in the mechanics of their cinematic medium, and are more the inventions of a mechanical age than the slower comedy of literature or the theatre or vaudeville. Lloyd himself has repeatedly stated that he set out simply to "make 'em laugh." His staggering success is well known; and an analysis of *Safety Last* will both help to explain it and reveal much that is of absorbing interest in the art and technique of this excellent comedy.

The Human Fly

The idea was the basis of a Lloyd picture. Here, it came from watching Bill Strothers, "the human fly," scaling a skyscraper. Clearly, Lloyd would be roped in to do a climb arranged for Strothers. . . . The finally-fixed story skeleton is as follows:

- (1) Harold sets off to make his fortune in the Great City.
- (2) In his job as salesman in a store he crosses the pompous floorwalker.
- (3) His room-mate, Bill, falls foul of a cop.
- (4) He sends home such glowing (and exaggerated) accounts of his progress that his fiancée pays a surprise visit, so he pretends to be the store manager.
- (5) He sells the manager the publicity stunt of Bill Strothers climbing the facade of the store building.
- (6) At the much-publicised starting time, the cop turns up, so Harold has to do the climb.
- (7) He succeeds riotously; and Mildred is waiting at the top.

At this time (early 1923) Lloyd's team of gag men was not fully developed; later, this team became the model for other famous teams such as that much publicised by Bob Hope. But several brains added gags to the story, with the usual happy results. The opening is typical . . .

1. TITLE. For him the sun had risen for the last time at Great Bend—He was about to take the long, long journey.

2. C.M.S. Delayed iris-in, Harold behind bars . . . Track back to M.S., a gibbet is seen in the background: Mildred and his mother speak tearfully to him: an official approaches, followed by a padre . . .

3. L.S. They are on Great Bend station, past the barrier . . . Then the train comes in, and the gibbet noose is revealed as the "tablet" used in single-line working. Friends bid good-bye. Harold dons a cloth cap, the gesture covering an excellent cut-on-action to C.M.S. Tender farewells are made. When Harold has made good, Mildred will marry him. A darkie mother parks her babe in a carrying-box beside them. A close-up heightens the anticipation; then the guard waves, Harold grabs the babe and dashes off, mother screams and follows.

The single long shot which follows is a piece of

sublime perfection in timing which is typically Lloyd, and would make many a modern production team yell for mercy: Harold reaches the rear end of the train and is just getting on when the anxious mother arrives. The train starts. He apologises, they exchange bags, she walks away. A cart is meanwhile passing behind them, so when Harold, looking backwards at the station as he keeps waving hearty farewells, turns to remount the train, he actually mounts the cart. Then realising the error, he jumps off and frantically chases the receding train and hurls himself aboard as the shot fades out. (25ft., i.e., 25 seconds).

This opening sequence runs to 200ft., equals 31 minutes and closes on a gust of laughter that heralds good things to come. It was really to be expected of the Lloyd scheme of things that a brisk and hearty opening should be provided, their machinery always being reckoned capable of capping any gag with a better one!

Opening Styles

Contrast the opening styles of Chaplin and Keaton, both less uproarious and more subtle. Chaplin often used a very low-key opening to act as a foil either to his own appearance (as in *The Circus*) or to laughs to follow (as in *Easy Street*). Keaton did much the same, often being first discovered unexpectedly, his back to the camera, as in *Steamboat Bill Jr.* One of Lloyd's grandest openings was in *For Heaven's Sake*, when his chauffeur runs his car into a lorry ("That will be all for today, thank you, James") and he buys another which then gets wrecked on a level-crossing (so he removes a *Tip no Rubbish* sign).

Limp Bill, his room-mate, is darning socks when Harold bursts in with a pendant he's bought for Mildred... but the gramophone's missing. "If we'd had six more records I could have bought the chain." But Bill produces their rent notice. Landlady knocks, and with one accord they climb out of sight behind their coats, hanging on the pegs. Landlady withdraws, they get down. Harold wants to write, but Bill is at the table. So Harold knocks again, Bill dashes to the hide, Harold settles down to his writing. *Fade-out*.

A short sequence shows the enraptured Mildred, seated in a garden and heavily back-lit, admiring the

pendant and reading the glowing account by Harold of his progress in his job.

The comedy situation of having him miles away from his work at ten minutes to starting time, without sacrificing his reputation for keenness, is arranged by having him on the doorstep half an hour early, doing some book work. For comfort he sits in a laundry van when lo! the doors whisk shut and he is whirled away. . . . The driver is deaf, anyway. On being released, he makes for a tram, around which is clustered the world's record mob of would-be passengers. He reconnoitres and boards another tram, but, of course, it goes in the wrong direction. So, returning to the fray . . .

1. M.S. (*pan*) he desperately attempts to mount, but there is not an inch of foothold, so he climbs on to a man's shoulders. The tram starts, leaving them. He rushes after it (*pan to L.S.*) and at the third attempt gets on.
2. C.M.S. He hangs on, looks grimly at his watch, looks round . . .
3. M.S. (*camera on tram*). A car approaches, he waves to it.
4. C.M.S. Car driver looks at him.
5. C.M.S. (*as 2*). He asks for a lift.
6. C.M.S. (*as 4*). Car driver nods.
7. M.S. (*as 3*). Harold starts climbing over . . .
8. L.S. . . . but tram turns a corner, car goes straight on, Harold lands in the roadway.
9. L.S. Two ambulance men are arguing with a "case" who won't be taken.
10. C.M.S. (*fringed*) Harold looks thoughtfully, walks forward . . .
11. M.S. . . . neatly parks his hat, and lies down beside the stretcher. The ambulance men turn, notice him . . .
12. C.S. . . . in amazement. . . .
13. M.S. (*as 11*). They whip him on to the stretcher, into ambulance, which drives off.
14. F.L.S. (*high angle*). The ambulance races along the road.
15. C.M.S. (*interior*). When man turns away to write report, Harold consults his watch and looks out, parting the front curtains.
16. Tracking shot. Ambulance proceeds swiftly, pedestrians scattering.
17. C.M.S. (*as 15*). Harold lies back as attendant turns; then as he turns away to write again, he takes another peep.
18. T.S. (*as 16*). Terrific speed, several pedestrians have narrow escapes.
19. C.M.S. (*as 15*). Harold just lies back in time as attendant looks round.
20. L.S. (*high angle*). The ambulance speeds on.
21. T.S. (*as 16*). It cuts-in dangerously.
22. C.M.S. (*as 15*). Harold grabs speaking-tube and remarks to driver:
23. TITLE "Stop the car at the next corner, please."
24. C.M.S. (*as 15*). Attendant is dazed. Harold dusts himself down, grabs hat.
25. M.S. Ambulance stops, Harold alights, thanks attendant, looks at watch, whoops and sprints off.

Some sort of extension must have been built out from the side of the tram for shots three and seven. Timing would not matter in seven, but the cut to eight is beautifully precise, and it takes nine and ten for the laugh to die down. Shot 18 appears to have been specially acted, so hectic and narrow are the escapes! Shot 22 reveals the coolly nonchalant aspect of Harold, and one recalls him parking his jacket on the outstretched arms of the vamp in *Girl Shy*, and collecting the Super's fingerprints in *Welcome Danger*. All the exteriors have the sparkling, sunny brilliance characteristic of these comedies. There are no traces of considered composition, but the law of keeping the camera as close as possible without excluding any essentials is religiously followed.

Harold fetches up at the stores ten minutes late. His ruse for entering and faking his clocking-in is to crouch on a display-stand, wearing a large flowered hat and fur. The outraged floorwalker follows him as he creeps to his counter, but is shaken off by a sudden leap which causes him to step backwards into a lift, which immediately ascends.

Production	Hal Roach, Culver City, U.S.A., 1923, under contract with Pathé, New York.
American release	8th April, 1923. Distributed by Pathé.
Trade review	7th June, 1923.
English release	19th November, 1923.
Distributor	W. & F.
Length	Approximately 6,000 feet.
Directed by	Fred Newmeyer and Sam Taylor.
Story by	Hal Roach.
Photography	Walter Lundin.
Assistants	Fred L. Guil, C. E. Christensen, John L. Murphy.
THE PLAYERS	
The Boy	HAROLD LLOYD
The Girl	Mildred Davis.
The Pal	Bill Strothers.
The Law	Noah Young.
The Floorwalker	Westcott B. Clarke.
The Kid	Mickey Daniels.
Grandma	Anna Townsend.

SAFETY LAST was re-issued silent in December, 1927, and with synchronised sound in 1936.



Shot 5. Harold asks for a lift.



6. Driver agrees.



7. Harold starts climbing over.



11. How to obtain a free lift. 15. Inside ambulance, taking a peek outside. 16. Tracking shot at speed. 22. "Stop at the next corner, please"

Saturday afternoon . . . After a grim delay in serving a sweet old lady who wants to see just everything, Harold staggers out and meets an old pal, now a cop. Hearty back-slappings and cap-skewings follow. Then Harold joins the waiting Bill, and boasts of his pull with the cops. But when he demonstrates by getting Bill to push the cop over him, and "watch me square it," things go wrong because the pal has gone and a tough cop has taken his place: and so Harold dives for cover while this cop chases Bill . . .

Bill climbs up the side of a building to shake off the cop, who follows but gets stuck and has to be helped down. Bill reaches the roof, while Harold watches in trepidation, nervously wrecking a bunch of flowers just purchased by another onlooker. They meet again below, and Bill remarks that he can climb fifty storeys, blindfold.

Taking the Plunge

Harold's eye is caught by a pendant chain in a jeweller's window: neatly superimposed, Mildred's head is faded-in, the chain framing her. The proprietor peeps round a curtain, his assistant is sent to drag Harold in, then dismissed while the old man starts selling, rubbing his hands unctuously together, a gesture which Harold keeps copying in spite of himself until he sticks his hands in his pockets. Then he takes the plunge, pays over all his wages and loose change—and sees the dishes of his lunch, from the eats shop opposite, fade away one by one. He walks off, whistling, belt tightened. The iris-out is off centre, to cater for his diagonal walk-away.

Mildred receives the chain with jubilation, but Mother thinks Harold may not be safe, with so much money . . .

1. TITLE. *Mother's instinct was right. Harold was in great danger.*

2. C.M.S. Harold, dishevelled, leans back against a wall, begging for help. *Track Back to L.S.*, he is behind a piled counter, raging women threaten him. A sale is on.

3. C.M.S. Three particularly tough women threaten him . . . so starts a rollicking sequence. Two women seize him, so he has to shed his jacket to get free. He uses a fat and thin woman to measure out a yard and a half (a Keystone gag). He settles a tug-of-war by cutting the disputed cloth in two. He hands over a white cat in mistake for a fur. He serves an old lady by asking who dropped that 50-dollar bill, so all but she duck to the floor. When one lady pokes him in the ribs with her

umbrella, he fences with her, using his measuring-stick, so that when the floorwalker comes up, he gets a poke in the stomach. This marks him, and Harold will be reported. A colleague takes over, with Harold's silent blessing—and is immediately swamped by the raging females . . .

Mildred, awed by her first trip to the Big City, wanders in. Harold spots her, and comes up with an embrace so whole-hearted that an open-mouthed snack-bar waiter spills chocolate copiously. This waiter appears in the background of the embrace C.M.S., and an unusual and bad cutting error occurs, his close-up beginning some 20 frames too soon, measured from the first instant of spilling of the chocolate. There is a lesson to be learned here: the repetition of the spilling may be intended to secure an added laugh by repetition, but this kind of ruse always fails except perhaps among the very simple-minded. It is a transgression of the rules of film syntax, a flouting of continuity, and therefore indefensible!

Harold, standing with Mildred a few paces from his sales counter, is now faced with the problem of appearing as an executive. The script is here inventive and quite ingenious:

ACTUAL OCCURRENCE TURNED BY HAROLD INTO

- | | |
|--|--|
| 1. Desk girl matily tosses him a parcel for his last customer. | 1. "Must I personally supervise every sale made in this department?"—and he causes a dazed colleague to complete his sale. |
| 2. The floorwalker comes along so he has to return to his counter to attend a customer. | 2. He calls his colleague up, to witness a demonstration of the correct method of salesmanship. |
| 3. He is handed a complaint card, and must report to the general manager's office immediately. | 3. He is required to advise their European buyer on an important matter |

So he exits in an aura of triumph that quickly melts as he enters the G.M.'s office, where he nervously nibbles the centre out of his complaint card, fidgets with the telephone, gets rebuked for losing his jacket at the sale "when serving ladies of culture and refinement.", and absent-mindedly puts on the G.M.'s large bowler. Mildred looks round as he comes out, and the M.S. of what she sees, viz., Harold and the door, appropriately vignettes down to the door sign: and in her close-up she breathes "General Manager!!!" Of course, she demands to see his office . . .

As in the above, so also in the office scene to



Reading from top: Shot 4. The significant shadow. 5. Harold watches it. 6. They proceed across the road. 6 (cont'd.). A car drives between them. 6 (cont'd.). Car has passed and Harold has vanished. 7. Harold rediscovered, heated by blow-lamp. 7 (cont'd.). Retaliation. 8. Harold rejoins Bill.

follow, Mildred Davis succeeds admirably as a foil for Lloyd, her enthusiastic delight in his position and the appurtenances of his office causing grave embarrassment only momentarily forgotten when, in particular ecstasy, she kisses him. Harold's fidgeting finger finds one of the several desk bell-pushes, and produces a startled office boy, who is only squared by a heavy wink and a dollar bill dropped into the waste-paper basket. Chaplin's routine with tips was generally to eye the coin and replace it in his own pocket (as in *The Rink*), or to toss it and, of course, win (as in *The Adventurer*). Lloyd, however, cheerfully jeopardizes the tip and then regains it by the adroit subterfuge of crumpling and dropping a bit of paper, recalling the boy, and retrieving the bill as the boy stoops.

"Quick, open your mouth and close your eyes!" yells Harold, and the general manager enters to see him fanning a swooning girl, and dashes out to fetch water. Mildred titivates with maddening slowness, but they safely get away. And she has forgotten her bag. Nervously bracing himself to enter the office yet again, Harold hears the G.M. tell his publicity man: "I'd give a thousand dollars—to anyone—for an idea; something that would attract attention to this store." In C.M.S., he bangs his fist on his desk, 20 frames, a grand shot. Cut to C.S. Lloyd, idea dawns: and he dashes in, explains desperately, sells the idea, dashes out, returns for Mildred's bag, collides and jigs with floorwalker . . .

Phoning from the billiards saloon, Bill agrees. Two superfluous and dubiously humorous titles dim this sequence.

Mildred is told to get the marriage licence, and is sent home in a customer's car. Two more laboured titles here. This soggy patch may have been suffered as being the old routine of playing soft to point the force of the climax. It is wrong in this context, however, as the lead-in is provided by the drunk (a stock Hal Roach player, unnamed but excellent) who shows the cop a newspaper publicising the climb, with a photograph of the Mystery Climber, face blanked out, for security reasons. The cop, however, and we ourselves (helped by Bill's face faded in and out) penetrate the Mystery Man's identity. We therefore don't share Harold's dismay when, at 2 p.m., facing the enormous crowds thronging the starting-point, is seen the static and uncompromising figure of the cop . . . Bill is shaken to the core. Harold decides to ditch the cop, so he approaches ultra-nonchalantly, then suddenly:

1. C.M.S. Grabs the cop, points urgently into the distance, leads him off. . .
2. C.S. Bill watches from a corner.
3. C.M.S. (tracking backwards) Harold walks on, whistling; the cop, toying with truncheon, follows rather doubtfully. Harold glances down.
4. C.M.S. (tracking backwards). Their shadows precede them.
5. C.M.S. (as 3). They proceed, Harold growing more uneasy and cop growing more doubtful.
6. L.S. (from behind them). They proceed, but a car passes between them, and when it has gone, so has Harold. Cop is dumbfounded.
7. L.S. The car, seen from 2 back view, Harold squatting on step. It stops in a traffic block, in such a position that a plumber's blow-lamp, parked on a box while its owner bends over a man-hole, scorches Harold's pants. He leaps up with a yell—but before walking off he turns the blow-lamp round, and the plumber leaps up with an even greater yell.
8. M.S. Harold rejoins Bill at the corner, but the cop also returns, with the drunk who has tacked on to him.

Harold's next brilliant idea is to chalk *Kick Me* in reverse on the wall, "accidentally" push the cop against the writing, then draw attention to the result: which leads to an almighty kick, and the drunk being led away. Harold laughs, leans against the writing, and receives his kick from young Mickey Daniels, released for the occasion from the *Our Gang* comedies, which were also produced by Hal Roach.

Meanwhile the drunk has dodged the cop, who moodily returns, so Bill suggests that Harold should climb to the first floor, Bill to continue after swapping clothes. Harold looks upwards, fingers his jacket, and laughs uneasily, but agrees, and just as the crowd is beginning to boo a little at the publicity man, introduces himself . . . "I would to surprise you." A pavement lift comes up suddenly, flinging him down. He does a few physical jerks, and makes a start. The cop is sunk in thought. Harold, camera tilting to follow, has precariously gained about twelve feet when disaster occurs. He clutches a shop-window blind, which swings down, flinging him to the ground and stunning the cop. In L.S. he helps up and dusts down the cop, and hurriedly returns to the climb. Bill encourages him—but is



The display dummy that sneezed.—From the drapery store scene. Harold has two main objects in life: to prevent himself getting submerged in a sea of raging women customers, and to persuade Mildred that he is an important executive.

seen by the cop: L.S. covers the start of their chase into the store.

The stage is now set for extracting the utmost in comedy thrills from the climb. The film has about twenty minutes to run, the ingredients of the single remaining sequence being:

(a) Harold just reaching the first floor of the 12-storey building.

(b) Bill being chased by cop.

(c) Enthusiastic crowd both below in the streets and at sundry windows.

These ingredients are logically expanded as follows:

(a) Harold has to go all the way, meeting grave obstacles.

(b) This is the chorus or refrain . . . "Just one more floor, till I ditch the cop." (Also provides continuity cover.)

(c) This is the unsympathetic and unyielding background, sympathy coming only from Mildred.

Bill reaches a window and startles an office worker, as Harold struggles on to the insecure refuge of the cornice over the ground floor. But the office worker has told the cop, who now peers admonishingly from the window, while Bill from the next floor up explains . . . Harold's uneasy glance upwards is followed by a shattering angle shot looking up the sheer side of the building, the clock high above, rows of windows looking bleak and distant and offering very little foothold . . .

A youth on the second floor spilling a bag of nuts is the cause of Harold being almost engulfed by half a dozen pigeons. Holding on by one hand he takes, blows up and bursts the bag, scaring them. This action is covered in mid-shots and medium close-ups from a fairly high angle, showing trams and cars in the streets below, and a few onlookers; but the actual attaining of the second floor cornice is covered in full long shot, from the opposite direction, from a really high angle.

Two windows-full of clapping girls urge him on to the next floor; so does Bill, seen in a corridor beyond them. Harold slips, loses his nerve, but they wave him on, the sweet young things. A tennis net pulled from the third floor impedes him, till it falls on the drunk below, who has pointed out that it's in his way.

Decorators at work in a fourth floor office unexpectedly push out a trestle-plank which catches him and leaves him suspended far away from the side of the building. Then it is indignantly withdrawn and (cut to full L.S.) he just manages to catch on to a ledge. "Come on, just one more floor," urges Bill. An old lady advises caution. Mildred arrives below, looks up. F.L.S. of the whole building from ground level shows him at the fifth floor. Mildred is alarmed.

High angle shot looking down the side of the building shows Harold reaching floor six. Then, returning to the general M.S., he struggles to reach the seventh floor window ledge. This M.S. is a grand shot, Harold occupying only the left-hand quarter of the frame, the remainder being the background of buildings on either side of the busy street far beneath. The window is a swinging type, and just as Harold gets to a kneeling position, Bill roughly opens it, and Harold only saves himself by reaching out to grab the minute hand of the building's corner clock, which is on the seventh

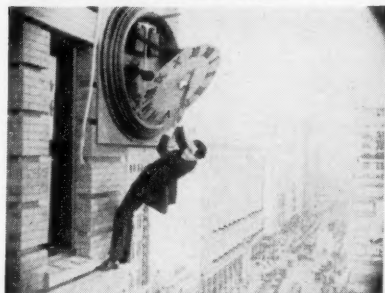
floor—and was indicating twenty to three till Harold's weight puts it back to two-thirty! Cut to a flash of the crowd's horror, then back to Harold, trying to pull himself up. The clock face swings outwards and downwards, and at last Harold loses his straw hat. Bill sees . . .

1. M.L.S. Harold hanging *tilt* up to Bill, at an eighth floor window. He throws out a rope. *Tilt* back to Harold—it is just out of reach.

2. M.S. Bill starts to tie rope round leg of office desk when the cop enters, so he dives under desk and exits, cop following.

3. M.L.S. (as 1). Harold attempts to reach the dangling rope.

4. C.S. Detail: The rope lies loose by the desk leg.



Shots 3 (top), probably the most famous in the film, and 20 from the climb sequence.

5. M.L.S. (as 3). By kicking it and causing it to swing, Harold just manages to reach the rope; he grabs it and falls like a stone . . .

6. M.S. In the office, Bill dives in and just manages to grab the loose end before it disappears out of the window.

7. M.S. Harold falls, stops with a jerk . . .

8. C.S. . . . and is more than startled.

The cop is forced to help Bill to pull in the rope, which they do so energetically that Harold's head is bumped thrice against the next cornice before the rope is pulled right through his fingers, and he has to make another lightning grab. The publicity man compliments him. He has a great struggle to reach the eighth floor ledge as his shoe gets jammed in a chink. Bill shouts rather testily: "Make the next floor faster, I'm having a terrible job shaking off the cop."

Harold opens a window, but a dog springs up and he falls back on to the eighth floor flag-pole, which snaps, hurling him into the clock. Dog owner (Continued on page 842)

Shot 4 from the climb sequence: the other end of the rope—a close-up of dire implication—*which, in Shot 3 (see col. 2), Harold is preparing to grab. Shot 20 (col. 2) shows him at the top, swaying dizzily, having just received a blow from the anemometer.*



A Striking New Approach



Top: the Man (Richard Attenborough) gazes at the crowd. His fiancée (Virginia Maskell) tries to break away from the police to get to him. (From "The Man Upstairs.")

BRITISH films don't usually offer the amateur many practical examples of good technique or original treatment, any more than they offer the cinema-goer adequate entertainment. In fact, I've often wondered whether the dearth of ideas in amateur productions might not to some extent be a reflection of the barrenness of our professional screen. The only thing wrong with this theory, of course, is that so many amateurs boast of the rarity with which they visit the cinema.

With the kind of programmes they've recently been offered, I suppose one can't really blame them. But I hope that the rave reviews won by *The Man Upstairs* encouraged at least some to visit their local Gaumont, where the film was unceremoniously bundled out on release without a West End showing.

The Man Upstairs is the best British film since *Orders to Kill*. It takes a cinematically fool-proof situation and uses it in a strikingly new way. Alun Falconer, who has been trying to sell a film script for the past twelve years, has been promptly placed under contract by British Lion as a result of this, his first accepted screen play.

The man who cuts himself off in some dramatic way is one of the screen's most reliable figures. Carne's *Le Jour Se Leve* and the hypnotic *Fourteen Hours* are probably the most celebrated

BY DEREK HILL

examples. Both used the situation of a man apart, one barricaded in his room, one balanced on a skyscraper window ledge and threatening to jump, to explore what had driven him there.

Falconer is less concerned with the details of his outsider, a deranged scientist who disturbs his neighbours in an apartment house and then refuses to leave his room, than in the reactions of the mystified tenants on the other floors. One calls the police, who are eager to get the man out by strong-arm methods. Another realises that, if they all act together, they can force the police at least to try less violent persuasion.

This film is as concerned with individual responsibility as was *Twelve Angry Men*. Its success is due to the urgency and timeliness of Falconer's theme and the expert interpretation of technicians and cast. Richard Attenborough, Bernard Lee—brilliantly cast as a thuggish police inspector—Donald Houston, Dorothy Alison, Alfred Burke, and John Charlesworth, in the tiny but beautifully brought off part of a clean-cut young army officer, fit snugly into their unusually individual roles.

What, you might wonder, does all this offer the amateur? Apart from showing for the millionth time that the best films are those which have something to say on a subject which the writer and director care deeply about, it suggests a completely new approach to situations repeatedly proved to be unfailingly cinematic.

You can say as much about the crowd outside the house of a murdered girl as you can about the victim. You can find as much drama in the passers-by who gather at a car crash as you can in the accident itself. In fact, with a group of people it is easier to do more than with one or two central characters. Practical problems of continuity are simplified, too. Notice how director Don Chaffey, previously associated with X certificate shockers, and editor John Trumper are able to switch from one group to another swiftly and effectively.

It would be foolish to pretend that *The Man*

MY PET GADGET by Derek Hill

MY favourite gadget is a wall—long, high and grubby. Editing a film that contains off-the-cuff sequences, I find it useful to hang shots one by one along the wall, attaching them by small pieces of Sellotape. Once the whole sequence is hanging up, it's much easier to juggle the shots in and out of position than if they were on pins. A flick on the tail gets them off, and they can be re-stuck time and time again.

What's more, if the Sellotape has been stuck on between the sprocket holes, it's simple to stick the shots together temporarily and run them through a viewer continuously without having any splicing delays at this stage. If you're working on an original, make sure the Sellotape doesn't extend beyond the first frame. As this is the light flash frame, you're going to lose it, anyway, so smears won't do any harm.

Why a grubby wall? Well, if it isn't grubby when you start, it will be by the time you've finished; so if you use the newly-papered lounge as your cutting room, just forget the whole idea!



L. to r.: "I'm sorry. Here..." Bill Travers offers Yvonne Mitchell a cigarette. (From "The Passionate Summer.") Jerry Lewis as the television repair man who can never do anything right. (From "Rock-a-Bye-Baby.") Jeannie Carson as the island school teacher in "Rockets Galore."

Upstairs is anything more than a good, competent film of the kind which one might expect to appear half a dozen times or more every year from our studios. It has its share of faults. Two characters, at least, are artificially played, and some sequences are repetitive.

But films like this just aren't being made in this country. The talent is there all right; but the policy of the big production companies is to stifle such work. It is worth noting that this is a production of the Association of Cine Technicians, made on a tiny budget and none the worse for that. The name of Ralph Bond as production controller suggests another reason why such an enterprising film won through.

The Passionate Summer and *Rockets Galore* are pretty typical examples of the sort of thing producers are encouraged to turn out. The first, a melodramatic romance set in Jamaica and starring Virginia McKenna, Yvonne Mitchell and Bill Travers, has little in its script, direction or performances to commend it.

In the second, director Michael Relph and scriptwriter Monja Danishefsky demonstrate just how important was Alexander MacKendrick's handling of *Whisky Galore*. Here are the same cast in the same roles set against the same location, but instead of the delightful comedy of the earlier film we get a lame production with but a single amusing sequence.

Both films were shot partly on location and partly in the studio. The standard of the back projection is remarkably poor. At the end of *The Passionate Summer* Virginia McKenna walks across an aerodrome towards a plane while Bill Travers shouts to attract her attention from a fence separating the airfield from the road. In the first shot of this set-up, the airfield and McKenna are both back-projected, while Travers, in the studio, shouts and waves.

This might have come off if it had been expertly done. Instead, there is an agonising wait while McKenna fails to make any response at all. When she does finally turn, she gazes at a spot a good few feet to Travers's left and hastens towards it. Meanwhile Travers looks about as close to the Jamaican location as the front row of the stalls!

Rockets Galore is almost as clumsy and, like *The Passionate Summer*, suffers from peculiar editing. In one scene Donald Sinden and Jeannie Carson have taken a boat to a secluded bay. The sequence opens with a shot of the boatman poking about in his rocking boat. The camera tilts rapidly—too rapidly—up to the empty cliffs above, and a direct cut from this still moving shot shows us the couple together. Why was the tilt left in? It adds nothing, except an unpleasant blur.

The latest Jerry Lewis comedy, *Rock-a-Bye-Baby*, demonstrates that professionals are as capable of indulging in trickery for its own sake as amateurs. After some agreeable early slapstick with Jerry Lewis involved with a fierce hosepipe, the film runs out of gags. In an attempt to keep things moving, the special effects department works overtime on every other sequence.

When Lewis sings, his younger self—played by his son Gary—joins in. When Connie Stevens sings, her reflection in a mirror accompanies her. When a letter from Baccaloni is read aloud, the scenes he describes are shown with everybody speaking in lip sync with Baccaloni's heavily accented voice on the track. The trouble about these gimmicks is that they're flung in without much regard for their relevance in the story—which concerns Lewis's attempts to look after triplets dumped on him by a film star who wants to play the lead in *The White Virgin of the Nile*.

The danger of concentrating on dazzling locations is illustrated by *A Certain Smile*. Jean Negulesco, the director, was also responsible for *Three Coins in the Fountain*, noted for its breathtaking views of Rome. This time he shows us Paris and the Riviera in beautiful Eastman colour and CinemaScope.

But Francoise Sagan's novel has been drained of what morality it had, and an unattractive study in selfishness substituted. The story, not to mention the performances, tempts one to gaze at the scenery and glittering decor and curse the players for getting in the way.

BLACK DAY AT BAD EMS

IT was a black day for British films when the U.K. placing in the UNICA contest held at Bad Ems in October was announced. The British entry dived to the lowest depth yet: 11th out of 15 countries. *Something to Remember* was bottom of the Documentary class. *Broken Images* was last but one in the Genre class. *Frère Jacques* came 9th in the Story Film section. *Whither Shall She Wander?* might have been expected to retrieve the situation, for it came first in the Documentary group—but the first prize was withheld. The film gained 72.54 points. 73 points are needed for a prize. So far want of 0.46 points. Great Britain came away empty-handed. (Cue for unpopular number on the absurdity of a system of judging by numbers.) The first six places in the competition went to Germany, France, Spain, Finland, Switzerland and Norway (in that order).

Our poor showing is the more unfortunate in that this may be the last time the U.K. is represented officially in UNICA. When this note appears, the BACC will have met, and it is our guess that they will have decided to withdraw from the UNICA conclaves. Our delegate, Mr. H. W. Hicks, abstained from voting at Bad Ems when the British proposals for amending the statutes were rejected. In the view of the BACC, the committee appointed last year at Rome was improperly elected and has no status. The legality of international organisations must be above criticism; and their decisions must be democratically arrived at. We hope to give further details next month.

Standard H.16 on which Reflex is based.



**Bolex H.16
Reflex
Camera**

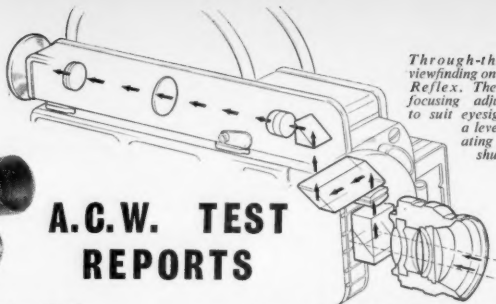
ONE of the distinguishing features between cine and still photography is that with the first the frame is entirely filled by the selected composition, whereas in stills the composition is commonly cropped during the enlarging stage. This fact makes viewfinder accuracy comparatively more important in a cine camera; and the accurate finder *par excellence* is the reflex.

The system adopted in the H.16 Reflex is a prism situated between lens and shutter. This prism, which may be rotated outwards on its hinge to permit cleaning after the turret has been swung clear, passes most of the image through to the film gate but reflects a very small proportion through an optical system (see diagram) and presents it for direct continuous viewing at the eye-piece above the camera body. This takes the position previously occupied by the extension visual-focusing viewer, redundant on a reflex camera. On earlier Bolex cameras, this was an alternative position for the direct viewfinder. The eye-piece incorporates a focusing device to suit individual eyesight, and there is a small shutter which may be closed to prevent the risk of light striking back and fogging the film in the gate, under conditions where there is strong light behind the camera.

Continuous Operation

The system adopted has the advantage that it operates continuously whether or not the camera is running, but the disadvantage that the image brightness seen in the finder is at the expense of light reaching the film. In practice, this loss is probably about equivalent to a quarter of a stop—the amount is not stated by the makers—and thus negligible; but the finder image is decidedly dim except at full aperture. It becomes necessary to set-up and carry out any tricky focusing, or decisions on differential focusing, at full aperture, and then to close to the correct aperture for shooting. This enhances general focus, of course, but reduces any differential focusing effect.

The presence of the prism increases the dimension film-gate-to-lens-flange in excess of the type C mount standard of 0.690in., and further alters the behaviour of the light rays between the lens and film. The latter matters most with short focus lenses. For these reasons a special set of Kern lenses is available. But all standard type C lenses can be used provided that (1) the inner element projects no more than about 4mm. into the mount, or it will foul the prism, and (2) in the case of standard and wide-angle lenses apertures of $f/5.6$ and smaller only are used.



Through-the-lens viewing on Bolex Reflex. There is a focusing adjustment to suit eyesight and a lever-operating safety shutter.

A.C.W. TEST REPORTS

Apart from the general confidence that a reflex finder imparts, it comes mainly into its own in the two cases of big close-ups and complex set-ups.

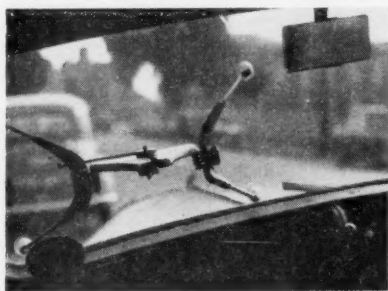
Big close-ups. With a standard 3 diopter meniscus lens, i.e., of focal length 13in., fixed in front of a 3in. telephoto lens, one can shoot subjects about an inch wide, and thus fill the screen with a post-mark or a halfpenny, without any of the usual rather tedious precautions needed to eliminate parallax.

Complex set-ups. When shooting glass shots, or action shots through photographic cut-outs placed close to the camera, the reflex finder is invaluable. It reassures one on focus, permits exact blending of the foreground and background, and greatly reduces setting-up time. Such shots are commonly made at the smallest possible aperture to give the necessary depth of field, and so the reflex finder image is dim; but having made the set-up one can use the normal Octameter viewfinder to check the action, having first determined accurately enough the comparative difference between the two views.

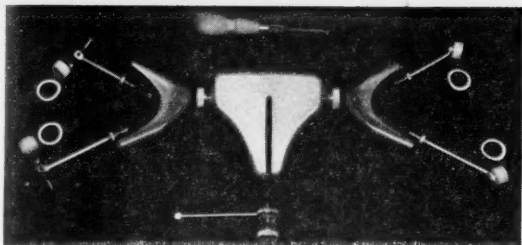
We confidently recommend the Bolex H.16 Reflex, which incorporates all the standard H.16 features, with the single regret that the exposure time per frame at 16 f.p.s. has been mechanically reduced to one-fortieth of a second and is now slightly further reduced by the reflex prism.

Carcam Mounting

A NUMBER of clamps of various design for enabling tracking shots to be taken from cars have appeared on the market from time to time, but none, to our knowledge, could claim to be truly "universal." They depended on finding a suitable place, such as a door-pillar or a sunshine roof, for attaching the device; alternatively, some (permanent) modification had to be made to the car, which naturally tended to reduce its re-sale value (unless the intending purchaser was also a cine fan!). Clearly, with



The mounting attached to a Jowett windscreen.



Component parts of Carcam Universal car/camera mounting. The pads on the right have been attached to the legs.

the multitude of models and makes of cars that have been, are, will be available, devising a clamp to fit *all* of them is an almost impossible task.

The solution adopted by Carcam is on different lines: a platform for holding the camera is attached to the vehicle's windscreen by means of four small adhesive pads. It is intended that these pads, made of milky white plastic $\frac{1}{16}$ in. dia. $\times \frac{1}{16}$ in. thick, be left permanently on the screen; when required, the rest of the mounting can be attached quite simply by means of wood screws. The pads are supplied coated with an adhesive on their front surfaces, which when moistened and pressed to the glass for one minute, adheres to it very firmly. Approximately 12 hours must be allowed for the adhesive to set, during which time no load must be applied to the pads; when no longer required, the pads can be removed by hot water or steam.

Attached Anywhere in Slot

The camera mounting consists of a roughly triangular cast alloy platform $5\frac{1}{2}$ in. wide $\times 5\frac{1}{2}$ in. long, carrying a central slot along most of its length; a $\frac{1}{16}$ in. Whit. stud screws into the tripod-bush of the camera and can be attached anywhere in this slot by means of two knurled nuts and a spring washer. The upper nut carries a $\frac{1}{4}$ in. long handle to enable the camera to be locked down tightly with the assembly in position.

Near the front of the platform an O.B.A. stud is provided at each side for attaching cast alloy "earpieces" by means of knurled nuts and lock-washers. Each earpiece is roughly V-shaped with a long tapped hole at each extremity, into which round mild-steel legs can be screwed; a 1 in. length of thread is allowed for adjusting the overall length of the legs to suit various windscreen shapes and a knurled lock-nut is provided for locking them in position at any given point. To allow for windscreen rake, the lower leg is made longer than the upper; it is also thicker, with a larger diameter thread, so that incorrect assembly is impossible.

The legs terminate in flats which are drilled to clear a wood screw, which attaches them via hemispherical collets, acting as universal joints, to the plastic pads on the windscreen. A screwdriver for these screws is provided with the kit, so bearing out the manufacturer's claim that the fitting can be accomplished "without soiling one's hands, interfering with one's car—or even opening one's toolbox."

Assisting Correct Fitting

To assist correct fitting, gummed paper rings are provided which just fit over the plastic pads. When the camera mounting is assembled and placed in the position it is to occupy in front of the passenger seat, making sure that the lens of the camera will point through an area of windscreen swept by the wipers (and if possible kept free from condensation by the heater), and that the camera is level when the car is on level ground, the paper

rings previously placed round the pads can be moistened and stuck to the windscreen, indicating the precise position for attaching the pads. These can now be unscrewed and attached individually to the windscreen as described earlier, after which the paper rings can be removed.

In practice we found it a little difficult to hold the platform steady while attaching the paper rings; even with a helper holding the platform in position there was a tendency for it to slip while the rings were being attached—a by no means easy operation with fingers sticky with their gum. We found it easier to mark the correct position with a chinagraph pencil, preferably on the *outside* of the glass (so that it would be easier to wipe off with the pads in place).

Once the correct positions were marked, no further difficulties were encountered with the mounting. We should add, however, that the instructions ought to carry a warning that the leg-adjustments should be locked off before the pads are unscrewed for fitting. Neglect to do this can result in protracted fiddling before correct refitting is possible.

It is recommended that a cable release long enough to reach the steering-wheel be used to operate the camera, so as not to interfere with one's driving; alternatively, lock-on running could be used, although the police may frown on this practice as it might tend to distract one's attention while one is fumbling for the release button. Ideally, a passenger should operate the release; he (or she) can be quite "unskilled," literally only having to "push the button" when told to do so.

Positioning the Pads

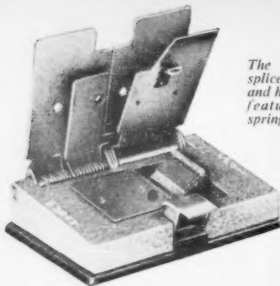
It must be admitted that the presence of the four sticker pads on the screen when the mounting is not in use can be distracting both to driver and passenger, though this can be minimised in most cars by sticking three of the pads near the edges of the windscreen; difficulties might be experienced with some of the new "wrap-round" screens such as fitted to the new Vauxhalls, as tilt adjustment of the camera would be lost if the pads were mounted right at the side of the screen. In this case the mount would have to be attached nearer to the centre, and the resulting annoyance put up with. The number of tracking shots likely to be required at any given time is, of course, limited; perhaps the greatest use could be expected on a motoring holiday.

Price, with two spare pads, wood screws, and paper rings: £4 5s. (Submitted by Carcam Supplies, 1 Clovelly Road, London, W.5.)

Muray CA.816 Splicer

THERE are several interesting features about this efficient splicer for 8mm. and 16mm. It has polished 1mm. thick stainless steel plates hinged at the back to a die-cast base block, which is finished in glossy grey hammertone enamel. The film is positioned the conventional way round, that is, the register pins are on the lower plates, and the scraped film on the left.

Its special features are best indicated by describing the operation of making a splice. Taking the closed splicer, you first depress the spring-catch lever at the front and—surprise!—the top plates spring



The Muray CA.816 splicer is well made, and has several novel features, including spring-up plates and a thin inner plate which holds the film while the splice dries with the top left plate up.

up to their raised position. It will now be seen that the register pins are in the centre of the plates, and the film can be placed on the pins with the greater width of the film towards either the front or rear of the splicer. This is a great advantage when handling either 8mm. or single perforation 16mm., since the film can be laid straight into the splicer, no matter whether the perforations are towards the user or on the other side of the film.

The right hand lower plate is raised, the film placed emulsion side up on the left side pins, and clamped with the left top plates (there are two together, as will be described later). The left side film is trimmed by bringing down the right hand plate, which is then raised about $\frac{1}{16}$ in., and the right hand film put on to it, clamped with its top plate, but not yet trimmed. The right hand plates in their raised position reveal the serrated dry scraper, made of hardened steel, and hinged on a rod on which it can be slid to and fro for scraping. A minor but neat point is that when the right hand plates are raised, a small spring below the scraper lifts it slightly so that it can be easily gripped.

Adjustable Scraper

The scraper is set in the usual way to remove only the emulsion and the substratum from the film—in other words, it is set to leave just the 0.005 in. thickness of the film base. It locates up against the edge of the left hand top plate, and a few strokes to and fro are adequate to remove the emulsion and roughen the surface of the film. The scraper could be adjusted, if required, after considerable use, and besides the locking screws,

there are two tiny adjusting screws to facilitate exact adjustment of the depth of scraping.

After scraping, film cement is applied to the scraped surface, and the right hand plates brought down. As this happens, the end of the right hand film is cut, and the ends joined together and held under pressure. As the right hand plates are clamped by the central spring-catch, the left hand top plate springs up. This again is apt to cause surprise, but all is in order, for the films being joined are seen to be clamped securely, and the left side film still held by the thin ($\frac{1}{16}$ in.) stainless steel plate which was on the underside of the left top plate.

With the main left top plate out of the way, the join has a better chance of drying quickly (many users of other splicers lift the top left plate shortly after making the splice, for just this reason). Any surplus cement squeezed out of the join can be wiped from the exposed surface of the film. The splice having been given the usual time (say 20 seconds) to dry, the central spring catch is pressed and the two remaining upper plates spring up. The joined film can then be taken off the pins.

Checking Spacing

It will be seen that, apart from the ingenious lifting of the top left hand plate while leaving the film still held by the thin plate under it, the operation of this splicer is essentially conventional. Testing it with both 8 and 16mm. films, we secured good joins with a minimum of effort. Scraping was equally effective whether the film was to the front or to the rear of the pins. Alignment was good, the correct spacing of the pins having additionally been checked by laying a piece of unspliced film across them. The register pins nearest the splice were (correctly) fully fitting in the film perforations, the outer pins being fully fitting sideways (preventing the film skewing) but reduced in size along the length of the film (again correctly), for clearance to take up variations in pitch due to film shrinkage, etc.

The die-cast base has plastic feet which will not scratch a polished surface. Also supplied with the splicer is a silver-grey cellulose pressed metal fixing base which can be screwed to a rewind board or work bench; the splicer can readily be clipped into it or taken out again at will. Excellent value for money.

Price: £2 19s. 6d. (Submitted by Actina Ltd.).

Where to See the 1957 Ten Best

Rochdale. 25th and 26th Nov., 7.30 p.m. Presented by Rochdale and District C.S. at The Champness Hall, Drake Street, Rochdale. Tickets 2s. 6d. (children 1s. 6d.) from D. S. Woolfenden, 14 Manchester Road, Rochdale.

London. 26th Nov., 8 p.m. Presented by Streatham C.C. at Town Hall, Lambeth. Tickets 2s. 6d. from P. Jenion, 81 Falconwood Road, Addington, Surrey, and E. Biggs, 66 Kambala Road, London, S.W.11.

Northampton. 28th Nov., 7.30 p.m. Presented by Northampton F.S. at Carnegie Hall, Abingdon Street, Northampton. Tickets 2s. 6d. from F. Hardwick, 42 Beverley Crescent, Northampton.

Fort Dunlop. 2nd Dec., 6.15 p.m. Presented by Dunlop F.S. at Dunlop Hall. Tickets 2s. from Sports Office, Fort Dunlop.

Shrewsbury. 4th Dec., continuous performance from 3 p.m. Presented by Shropshire P.S. at Banquet Room Music Hall, Shrewsbury. Tickets 2s. from H. B. Eldred, 23 Wyle Cop, Shrewsbury.

Nottingham. 9th and 10th Dec., 7.30 p.m. Presented by Nottingham A.C.S. at Y.W.C.A., Shakespeare Street, Nottingham. Tickets 2s. from H. F. Crawford, 61 South Road, Beeston, Nottingham.

Torquay. 9th Dec., 7.30 p.m. Presented by South Devon F.S. at S.W. Gas Board Demonstration Theatre, 112 Union Street, Torquay, Devon. Tickets 2s. 6d. from D. W. Aldous, Alderbourne, Greenway Road, St. Marychurch, Torquay.

St. Albans. 8th Dec., 8 p.m. Presented by Marconi

Instruments F.S. at Marconi Hall, Longcres, St. Albans, Herts. Tickets 2s. from D. Saul, 425 Hatfield Road, St. Albans.

Rugeley. 16th Dec., 7.30 p.m. Presented by Rugeley P.S. at Rugeley Grammar School. Tickets 2s. 6d. from W. C. Barham, 35 Market Street, Rugeley, Staffs.

Swindon. 16th Dec., 7.30 p.m. Presented by Swindon F.U. at Arts Centre, Devizes Road, Swindon. Tickets 1s. 6d. from Public Library and V. H. Gardiner, 16 Bampton Grove, Swindon.

Cardiff. 18th and 19th Dec., 7 p.m. Presented by Cardiff A.C.S. at S. Wales Institute of Engineers, Park Place, Cardiff. Tickets 2s. 6d. from R. N. Peace, 30 Corporation Road, Cardiff.

Reading. 20th Dec., 8 p.m. Presented by Reading and District C.C. at Large Town Hall, Reading, Berks. Tickets 3s. from H. A. Thompson, Rushurst, New Road, Ruscombe, Twyford, Berks.

NEWS FROM THE CINE SOCIETIES

Newsreel, the regular feature recording the activities of the clubs, reappears next month, when we also have pleasure in welcoming an unusually large number of new groups. Reports both from societies and lone workers for Newsreel should reach us by the 20th of the month for publication the following month. And we are always glad to see production stills.

Amateur Cine World Ten Best Films of 1958 Entry Form

TEN HANDSOME SILVER "OSCARS" TO BE WON OUTRIGHT

The 'Amateur Cine World' Ten Best Films of the Year competition is the largest of its kind in the world, the winning of the coveted silver 'Oscar' setting the seal on the amateur's success. The winning films, the most widely circulated of all amateur films, are presented for a season at the National Film Theatre, London, and in many centres in the United Kingdom and overseas. But if your film is not one of the Ten this year, entry in the competition will nevertheless prove of practical benefit to you, for the award of one, two, three and four star commendations (with Leader) will help you gauge your standard in relation to that of other competitors.

TITLE LENGTH..... ft.
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 (If sound, specify S.O.T., tape, stripe or disc)
 CAMERA EXPOSURE METER TRIPOD
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 SOUND EQUIPMENT RECORDED BY
 If you wish to add further information about your film, please do so on a separate sheet.

NAME (if entry is a club film, please give names of director and club)

ADDRESS (if club film, please give address for correspondence if this is different from club headquarters address)

This film was produced by me/my club without professional assistance (except for processing/titling/recording) and I/we received no financial return for its production. The copyright in it is my/our property. I accept the conditions of entry to the Amateur Cine World Ten Best Films of 1958 competition as specified in the Notes for Entrants below.

SIGNATURE
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NOTES FOR ENTRANTS

1. The ten silver 'Oscars' awarded for the A.C.W. Ten Best Films of 1958 are won outright, becoming the winners' property. They do not have to be returned at the end of the year. A Leader is awarded for all films gaining One, Two, Three or Four Star commendation.

2. There is no entrance fee and no classes: any number of films may be entered by bona fide amateurs working on their own or in clubs or groups. An intending entrant who has any doubts about his amateur status should submit full details to the Editor and request a ruling.

3. Any film, of any length, subject or gauge may be entered; it may be in monochrome or colour, silent or sound. Each entry should preferably have been produced in 1958, but if it was made before this, some work must have been done on it during 1958, e.g., re-editing of a sequence, insertion of retakes, new titles, etc. Each film must be accompanied by an entry form.

4. Recommendations regarding sound accompaniments were given on page 662 of the November 1958 issue of *Amateur Cine World*. A reprint of the article is available free from A.C.W. (stamped addressed envelope, please).

5. Films which cannot be screened on normally available equipment cannot be accepted. In no circumstances may an entrant attend the judging to project his entry on his own apparatus.

6. Overseas entrants are required to pay all Customs dues where necessary.

7. A stamped addressed label must be enclosed with all entries. Receipt of entries will be acknowledged.

8. *Amateur Cine World* reserves the right to make copies and frame enlargements at its own expense and to make the winning films available for public exhibition in the United Kingdom and overseas, but the copyright of every film remains the property of the owner of the film.

9. All films, records and tapes will be handled with great care while they are in the possession of *Amateur Cine World* and projected on tested equipment by experienced operators, but *Amateur Cine World* cannot accept responsibility for loss or damage.

10. Entry forms and films must be despatched to reach *Amateur Cine World* by 31st December, 1958. Unless there are exceptional circumstances, any film arriving after this date will be returned unscreened.

11. Editor's decision in all matters relating to the competition is final, but entrants are always welcome to express their views.

12. Full details of the competition and details of the London premiere and of nation-wide exhibitions will be published in *Amateur Cine World*.

Address for all entries: Ten Best Films of 1958 Competition, Amateur
 Cine World, 46-47 Chancery Lane, London, W.C.2. CLOSING DATE:
 31st December, 1958

Each film must be accompanied by an entry form. If you are entering more than one film, or do not wish to cut your copy of A.C.W., please send stamped addressed envelope for additional forms.

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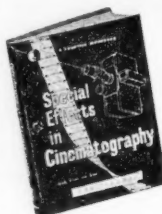
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By D. M. ELLIOT

(Director, Scottish Film Council)

AFTER eight years of attendance at UNICA Festivals it was a big change to find myself assisting for the first time at the Festival International du Film Amateur at Cannes. This was the 11th Festival organised by the Cine Club de Cannes, and I was deeply impressed by the efficiency with which it was organised and the degree of public support it received.

UNICA and Cannes have only one thing in common: in both the objective is the same—to show the best amateur films available. There is, of course, a major difference in the method of entry of films, for UNICA films must be nominated by national organisations—each country being allowed to present four films in three classes (Fiction, Genre, Documentary), but Cannes is an open-to-all competition. Anyone may submit films for consideration and if the film is of sufficient quality, it will survive the preliminary scrutiny of members of the Cine Club de Cannes and be submitted to the public in the magnificent Palais des Festivals at La Croisette on the main promenade at Cannes, facing the sea.

The organisers are fortunate in having at their disposal a theatre of such excellent acoustics, so high a degree of comfort and with a magnificent projection box and a screen capable of adaptation to meet the requirements of any type of film. So it is not surprising that the standard of projection was first-class—even the 8mm. films were screened on an arc projector at a throw of about 130ft. and on a screen only slightly smaller than that for the 16mm. films. Their quality, when subjected to this terrific enlargement, was truly astounding.

Surprisingly Good Standard

Nearly 200 entries were received from 16 countries and about 80 were selected for showing at the public sessions, which were attended on an average by from 1,400 to 1,500 patrons each evening. The programmes were well chosen and of a surprisingly good standard.

I had the great honour to be appointed President of the Jury selected to view the films. There should have been four other members, but one, unfortunately, had to call off at the last minute, and my colleagues were Dr. Bruno Bissaldi (Director of the Rapallo Festival in Italy), Dr. Erwin Oswich (producer of several outstanding German amateur films) and Monsieur Max Delacour (a leading figure in the French amateur movement).

It was an inspiring and interesting experience working with this very friendly jury. Dr. Bissaldi speaks French and German (as well as Italian) but no English; Dr. Oswich speaks some English and a little French (as well as German); Monsieur Delacour has no English, and to this group I brought a highly unorthodox form of Scotticised French. Nevertheless, we made excellent progress. Each night after the public viewing session had ended—the sessions ran from 9 p.m. to midnight—we met to consider the films which had been seen and to eliminate those we believed not to reach the standard required. Each night we compared the best films of the evening's programmes with the best of those of previous performances, and, in the end, had little difficulty in reaching our conclusions and awarding the principal prizes.

Judging Sessions

Each of the jury deliberation sessions lasted from one to two hours, with the final meeting covering three hours and concluding about 3 a.m. We were able to hand over all the results, fully documented, at 11.30 a.m. of the final day of the Festival. I understand this is the first occasion upon which the results have been completed and delivered so soon after the end of the public showings.

It was a pleasure to find so many interesting story films. Fourteen were shown to the public, and a Spanish entry, *La Espera*—by Pedro Font, some of whose earlier UNICA winning films are well-known in Great Britain—was given the principal prize. This was a brilliant essay, in the silent manner, since it required no commentary, on the theme that throughout life all of us must wait for something or other. It consisted of a series of brilliant vignettes showing those who wait hopefully, or with fear, with patience or intolerance, for what is to come—from the father anxiously awaiting the birth of his baby, to the family in despair over the death of the grandfather. This film pipped for

first place by the narrowest margin the well-known Italian production, *Marco del Mare*—a dramatic and moving story of a drowned fisherman who returns from the sea to pass unnoticed among his old friends in his native village. *Marco* was awarded the trophy as the best black-and-white film of the Festival. A special prize in the fiction class went to the American entry, *The Mute*—a closely-observed story of the problems of a deaf-mute earning a precarious living as a handyman on a diving boat.

The documentary class was a strong one, with 16 entries. Pride of place was taken by the Monaco entry, *Horizons Silencieux*—an outstanding study, both photographically and in content, of natural life in the North African desert. The second film, *Les Reptiles en Limousin*, was awarded the prize as the best educational picture. This was a striking, if at moments somewhat startling, study of the capture of snakes and extraction of poison from their fangs. A special prize in this class was awarded to the Australian entry, a beautifully photographed history of the *Wanderer Butterfly*, better known in this country as the Monarch butterfly.

Travel Films

Fourteen travel films were shown. They included excellent records of visits to far-off places—including Hong Kong, Moscow, the Amazon, India, the Congo and North Africa—a fine study of Venice and a most unusual Italian entry, *Gennaro*, in which a boy's longing for a model ship provided a background for a tour of his city. The award was given to *Karsika*, depicting the life of the Tuaregs, a nomadic veiled tribe of North Africa. This exciting and stimulating film was also awarded the Franco-Colonial Company's prize.

Other prize-winners included an outstanding Norwegian entry in the Genre class, *Inspiration*, an interesting film in the Fantasy class, with clever movement of objects and lighting, *Les Sept Peches Capitaux* (Belgium), and among the Chanson Films, an amusing interpretation of a popular ballad *Alors . . . Raconte* (France). The winning films, if presented together, would have made two really outstanding programmes. As it was, the large audiences had their money's worth each evening. Britain was represented at the Festival by only one film—a record by Mr. and Mrs. Grant White of exploration of the remoter reaches of the Amazon in search of distant tribes. This contained many fine sequences, but was uneven in quality and lacked the polish of some of the other entries.

The results were announced at the closing banquet at the Hotel Martinez, with the Mayor of Cannes presiding. There was an enthusiastic endorsement of the jury's selection of Pierre Ivaldi's *Horizons Silencieux* as the winner of the Grand Prix of the Festival. This was the first occasion on which the principal award had been allocated to Monaco.

Microphone Commentaries

One of the most striking features of the Festival was the frequency with which the film makers gave their own commentary direct over the microphone. The skill with which this was done was really remarkable. Remembering the stumbling and hesitant commentaries I have heard, I was most impressed by the confidence displayed. Incidentally, the prize for the best commentary went to a woman—Madame Paule Bernard of France, for her quick-fire, witty comments on her study of life in Hong Kong.

Balancing the serious side of the Festival were many very pleasant social activities such as visits to Nice, Monte Carlo, le Cannel, l'île St. Honorat and Vallauris, a village which specialises in the production of pottery. Reception to the participants were given by the Mayors of le Cannel, Nice and Cannes, and on Sunday evening a programme of previous winners included, as a special attraction, a Gala de la Mode—very interesting for a mere male, and more so for his wife. *The Battle of Wangapore* was one of the films shown in this retrospective programme.

My only regret at the end of my very interesting experience was the fact that Great Britain was represented by only one film. I can assure any British film maker who cares to submit his work to Cannes that, if it is of a reasonable technical standard, and marked by a good idea, it will receive every consideration and, if selected for public showing will be assured of first-class projection before a representative—one might say sophisticated—audience.

EDITOR'S NOTE—That a U.K. representative should have been asked to lead the jury in an international festival in France was a signal honour which Mr. Elliot carried off with unqualified success. His witty speech (in French) at the final banquet was the hit of the evening, and extracts from it were a few hours later broadcast by Monte Carlo Radio.

SAFETY LAST

(Continued from page 833)

rebukes him. A shock from a live wire in the clock shoots him up, and after shaking off a spring, he proceeds up to the larger ledge of the ninth floor. As he struggles on, the crawling traffic below midget-sized, a mouse runs up his trouser-leg. He does a sudden convulsive dance along the ledge, crowd applaud vigorously, then he falls over but hangs on with his hands while the mouse drops on to the dog-owner's head and yanks off his wig.

A flash-light still of a gunman being taken in a photographer's studio gives Harold his next fright, and he reaches the final, top ledge in record time. Mildred shouts at him from the ninth floor; he waves to her to come up on to the roof. Above his head is a large anemometer, rotating at good speed in the fresh breeze; in C.M.S. he straightens up; and it clouts him on the forehead. Cut to M.S., the last and most hectic thrill of all; he sways dizzily on the very brink of the sloping ledge—one of the most memorable shots in the history of screen comedy. Then, foot caught in flag rope, he goes over, swings, and lands back on the roof in Mildred's arms—a nice reverse-motion effect.

They kiss, he looks over casually, but seeing as we see the traffic and crowds miles below, he loses his nerve and somersaults over the parapet. Below, the drunk still struggles with the net. Far away, the cop chases Bill over an adjacent roof. And as Harold walks away with an arm around Mildred, he takes four steps in a pool of tar and loses his shoes and his socks; but, of course, never notices.

A point that makes the climb particularly remarkable by modern standards is the absence of back-projected backgrounds, by means of which the job would nowadays be done in the comfort of a ground floor studio. The genuine background definitely scores. As Lloyd aptly states in his autobiography, *An American Comedy* (Longmans): "The amount of risk I take in a thrill picture becomes a compromise between the necessity of taking some and the foolishness of taking too much."

In fact, the risk was limited to a drop of two to three storeys, the higher floors being specially constructed as necessary on a flat roof several storeys up, and kept from view by correct choice of camera-angle. The change-over involves a slight continuity break in the appearance of the street below, but this is well camouflaged by separation, and certainly would never be noticed at a first viewing. Errors in the direction of the sunlight have also been carefully avoided.

The photography has in general that crisp, breezy appearance so well suited to comedy. There are no photographic subtleties. In fact, there is never a cloud in the sky throughout the exteriors, reminding one that ortho stock was used with a disregard of filters, perhaps because of the continuity problems presented by varying cloud-forms. One must mention the slight fringing of the frame corners, particularly throughout the climb exteriors, which help to minimise the harshness of the screen rectangle in shots which are of a very light texture.

SETS. The store interiors were actually shot (in the evenings) in the Ville de Paris Store. The G.M.s office set is fair, and other small sets, such as ambulance interior, good, but the lodgings sitting-room set is very poor, dull and lit in far too low a key.

ACTING. Bill Strothers is the weakest member of the cast, and it startles the present writer to think that no one spotted the fatuity of signing on the real "Human Spider" and then not letting him do his act! The best support comes from Noah

Young as the cop, an old hand on the Roach set often seen with Snub Pollard, Marie Mosquini and Co., and remembered even in a minute traffic-cop part in *Look Out Below*. He also did a grand character study as Ken Maynard's "man" in *Gun Gospel* (1927). Of Lloyd himself, *The Bioscope* enthusiastically remarked:

In his latest comedy, Harold Lloyd owes his success entirely to his own unique personality, and the neat and effective manner in which he carries out an endless succession of amusing and original tricks which require more than ordinary dexterity.

Jobyna Ralston succeeded Mildred Davis as the Lloyd leading lady after *Safety Last*, and was in turn succeeded by Barbara Kent, among whose films was *Feet First*, their second talkie and the last of the line of thrill pictures.

DIRECTION. Much of the excellent timing, quick but descriptive gesture, and general comedy pace must be credited to Fred Newmeyer, whose task must have been anything but easy, particularly because . . .

SCENARIO . . . no scenario was used.

TITLES. Several are redundant, and many are laboured. All the Lloyd comedies up to this time were saddled with a number of heavy-handed titles (in addition, of course, to a sprinkling of sprightly ones). Take the following from *Look Out Below*, for example. In this one-reeler, Harold and Bebe Daniels spend the first half looking for somewhere quiet to be love-sick in, and end up on a plank which is immediately whisked up to the top of a skyscraper under construction. After many struggles with the foreman (Pollard), Bebe gets taken down in an open lift, and when Harold is lowered to the ground on a girder he says: "Ah! Beautiful earth. How bright and wonderful the world is." Then, seeing a tough getting fresh with Bebe, he says: "What a rotten world we live in." Then, after being thrice knocked down, he brains the tough with a sledge-hammer. (The End.) The quoted titles simply put a soggy patch into what should have been a crisp ending.

MONTAGE. Nothing spectacular, but the timing of many close-ups and specially static shots as of the untied rope, is consistently good. Total, 892 shots. Average shot length 6½ seconds.

ENVOI. Those who consider the main title *Safety Last* only mildly amusing should bear in mind that in 1923 "Safety First" was a new slogan, and that class cars went around with a red triangle on their backs inscribed "4-wheel brakes." The symbolic triangle of safety appeared also in the leader titles of Pathéscope films.

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9.5mm. shots of crowd scenes at golf tournaments.—J. E. Chandler, 1 London Road, Marlborough, Wilts.

8mm. shots of T.A. Jubilee Parade at Holyrood Palace on occasion of Royal visit, and back numbers of *A.C.W.*—John Dolan, 24 Kilmuir Drive, Thornliebank, Glasgow.

8mm. underwater shots.—Walter C. Dees, 40 Cotton Road, Dundee, Angus.

Suggestion for a signature tune, from a record.—Rag. Giorgio Rosazza, Biella, via Addis Adeb. Mr. Rosazza tells us that he translates many *A.C.W.* articles at meetings of the Biella Cine Club, and is delighted with the equipment he has bought after reading *A.C.W.* test reports.

Lone worker or club to make film on the correct and incorrect way of carrying out certain manoeuvres in motor trials. Assistance would be given with the script. Most of the events take place in the triangle between Maidstone, Tunbridge Wells and Wrotham; film stock paid for or some service rendered in return.—H. T. Chambers, Kentish Border Car Club, 110a Shooters Hill Road, Blackheath, London, S.E.3. (Greenwich 0823).

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THE HISTORICAL EPIC (Continued from page 781)
altered for centuries. Each film was made with a real affection, and each was directed with an understanding and a sense of period which the British cinema has never recaptured.

To see these old films today is an uncanny experience. For they show an England many of us have never seen: straggling village streets, no more than cart tracks, lined with houses of amazing antiquity; unspoilt vistas with acres of uncultivated moorland and wild forests; and castles, manor houses and mansions, surrounded by their own beautifully-kept grounds, and still occupied by their hereditary owners.

Set against these backgrounds, historical films could hardly fail to be evocative. But their directors went even further. Wherever possible their props were original, they painstakingly secured authentic costumes, and they instructed their carefully chosen actors on the correct mannerisms and behaviour of the period. The result of such rare integrity was a series of almost incredibly atmospheric costume dramas, utterly convincing and invariably very beautiful to watch.

Among them was *The Call of the Road*, the first film to feature Victor McLaglen. Directed by A. E. Coleby, it described the adventures of a heavyweight fighter who roams the countryside alternately looking for work and running into scrapes. The story, set in the 18th century, was slender but delightful, and the flavour of life in the open air was wonderfully strong.

McLaglen rather reluctantly accepted the lead in this film, but the part could not have suited him better, for it mirrored his own life. "They paid me the magnificent salary of £30 a week," he recalled. "I felt vaguely that I had let myself down. Acting never appealed to me, and I was dabbling in it solely as a means of making money—I rather felt that the grease-paint business was somewhat beneath a man who had once been a reasonably useful boxer. I enjoyed *The Call of the Road*, however, and the thought of the thirty

HOME PROCESSING

(Continued from page 775)

During processing, the film assumes various appearances, which allow one to check the action of each step. When first visible—after the wash following the first stop-bath—the emulsion side of the film is pale creamy-grey with a fairly strong negative image. The back of the film shows the same dense grey-brown anti-halo layer which can be seen when loading the film in the camera. During re-exposure, the emulsion darkens a little, to a purply shade.

With colour development, the surface darkens to a dirty yellow-brown, in which the negative image becomes almost indistinguishable. The bleach bath rapidly lightens the surface to a clean yellow, and more slowly the back of the film loses its dark brown layer to disclose a bright greenish-blue in which the positive image is clearly visible in white. In the fixer, the chalkiness goes out of the film, which first assumes a deep reddish tone in front and then a deep inky blue on the rear: simultaneously the film becomes transparent so that the final image is visible by transmitted light.

pounds revived my spirits and soothed any twinges of artistic conscience which I may have felt."

The Matheson Lang films also possessed this magical quality. *The King's Highway*, directed by Sinclair Hill, was shot at Chipping Campden, Elmley Castle, Pershore and Castle Morton by the Malvern Hills. The unit headquarters were at Evesham, in Worcestershire. Every evening the rushes would be hastily despatched by rail from the laboratories, and projected at the town's little Scala Kinema. At the old Crown Inn, where the notorious highwayman Captain Dangerfield once spent his evenings quietly and courteously robbing the guests at pistol point, the unit lived and stored their authentic stagecoach which they had discovered in a London mews. Matheson Lang played highwayman Paul Clifford brilliantly, with a superb sense of the romantic.

But *The King's Highway*, made in 1927, was practically the last of these marvellous costume pieces. Their end came when town planning and rehabilitation schemes altered the face of the countryside—when cart tracks became asphalt by-passes, old buildings were demolished to make way for housing estates, when picturesque villages became ugly suburbs of their newly-enlarged neighbouring towns, when mechanised farming enabled wild land to be cultivated, and manor houses and mansions, requisitioned by the government, lost their individuality and became council offices or public museums.

The best of these old costume films have long since vanished, even for the nine-fiver. But the 1919 version of *Lorna Doone* (1 × 300ft.N), with Bertie Gordon, has something of their atmosphere, particularly during the chase across the same wild Exmoor country described in the book. And so, to a lesser extent, has the *Mayor of Casterbridge* (1 × 300ft.N) with Fred Groves.

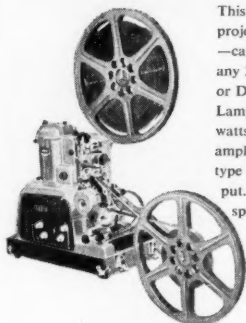
"The Chess Player" and two films with which the French historical film reached its zenith—"Les Misérables" and "Napoleon"—are among the features discussed in the second, concluding, instalment.

When re-using bleach or fixer, the film should be left for a full minute more than it takes, respectively (1) the dark brown anti-halo layer to clear completely; (2) all chalkiness to disappear. If either of these baths takes more than one-third longer than the specified time to produce clearing, it is exhausted.

A considerable amount of control over the final result is possible by varying the processing. The formulae and timings quoted give virtually identical results with official processing. The yellow content can be varied by altering the amount of potassium iodide in the first developer. More of this salt gives stronger yellows: less gives a "colder" balance. The effective speed of the film can be increased—with some loss of colour accuracy—by extending the first development. Shortening the colour development gives a thinner, softer and "warmer" image. The speed of the film is normally about 16 ASA (12 on pre-1957 Weston meters)—that is, f/8 for dark subjects and f/11 for average-bright subjects, both in full sunshine.

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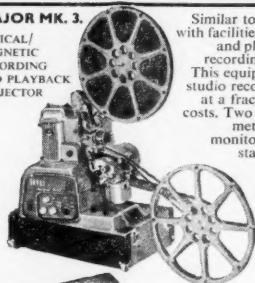


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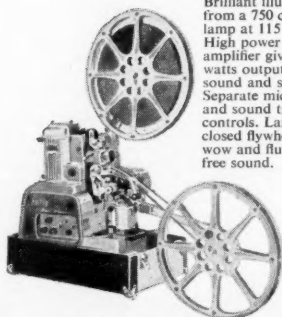
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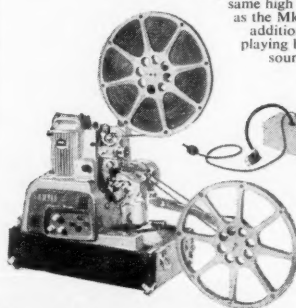
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(Continued from page 806)

to lay your hands on a second recorder, then the field is greatly enlarged. A length of tape containing a basic sound or pattern can be made into a loop which can run continuously in the first machine and be re-recorded on the second. This enables you to repeat notes and phrases; and repetition is an important principle in any form of musical composition.

If you can get at the magnetic heads on one of the recorders (you may have to take off the cover) you can probably arrange to pull the tape past the playback head, either by hand or by putting the take-up spool on a suitably placed gramophone turntable. This gives you varying speeds, and you can also play parts of the tape backwards.

The fast rewind can be operated while the tape is held against the playback head by slight pressure. This gives a steadily increasing speed and is very effective when the tape being rewound consists of a long series of repeated sounds recorded from a loop. The new sounds given by varying speeds can all be recorded on the second recorder.

Mixing Two Tracks

Of course, the best way of combining two recordings is to use three recorders; or to use a

MAKING A PAN AND TILT HEAD

(Continued from page 825)

fits well, it is ready for assembly, but first note that the square part of the bolt shank is more than the $\frac{1}{2}$ in. long required to fit in the steel strip. To save turning off the excess length of square part of the bolt, file two $\frac{1}{2}$ in. washers to square holes and slip them on the bolt first. Then assemble it through the U. The square part should not now protrude through the steel strip.

Put bolt and stirrup on to the 3 in. dia. plywood disc and use two woodscrews to fix the stirrup to the wood. Put the felt friction disc on to the bolt, and assemble this lot on to the 2 in. dia. plywood disc which is already screwed to the tripod top. About an inch of the end of the bolt should protrude on the underside of the tripod top. On this end, fit, in this order, a large diameter washer with $\frac{1}{2}$ in. hole, an ordinary $\frac{1}{2}$ in. washer, a spring washer, another ordinary washer, and a wing nut. This completes the panning movement.

The tilting top is made from a block of hardwood $3 \times 2\frac{1}{2} \times \frac{1}{2}$ in. thick. It is drilled centrally through the $2\frac{1}{2}$ in. width with a $\frac{1}{2}$ in. drill, care being taken to keep the drilling absolutely straight. A proper drilling machine is a great help here, and a fast speed should be used to get a clean hole. Next take a $\frac{3}{4}$ in. long coach bolt $\frac{1}{2}$ in. dia., end threaded Whit for about $\frac{1}{2}$ in., and again shorten the too-long square part to $\frac{1}{2}$ in. by fitting washers with their holes squared out. The prepared bolt is then put through the square hole in the side of the stirrup, a washer put on, then the tilting top, then another washer on to the bolt, which is then pushed on through the round hole in the stirrup. Outside it, a washer, spring washer, another washer, and a wing nut, are put on in that order. The tilt locking adjustment can then be set by screwing up this wing nut.

The camera is offered up to the tilting top, and the best position found (remember that it helps if the centre of gravity of the camera is directly over

special recorder, such as a stereophonic unit with an independent recording head and amplifying circuit for both upper and lower tracks. I am now using a Brenell unit with an extra head and amplifier for the lower track. It has the added advantage that the heads are easily accessible; so editing and general "fooling about" are quite easy. With a twin-track machine like this, it's possible to record a different series of sounds on each track and then play them back together, controlling the volume of each one independently.

This method, by the way, is useful to filmmakers interested in orthodox sound tracks. With it they can combine the usual commentary and background music. The two tracks can be recorded independently and a satisfactory balance between the two established during playback; and they will always remain synchronised with each other.

Those are the methods or, at any rate, the only ones I've discovered so far. Perhaps you'll think of some other ingenious ways of making interesting sounds—there's still plenty of scope for people with an inventive turn of mind. The only slightly off-putting thought is that perhaps the neighbours do have a point when they suggest that one ought to do these experiments in a padded cell. Never mind! Close the windows, turn the volume down, hope for the best and press on.

the hinge point of the tilt). If the tripod bush comes too close to the tilt hinge bolt, move the camera slightly one way or the other, and finally mark the position of the tripod bush. Drill this hole $\frac{1}{2}$ in. clearance (that is, just a shade larger drill than $\frac{1}{2}$ in.).

Stick the piece of rubber matting to the top of the tilting platform, and carry the hole for the tripod screw through the rubber. Take the $\frac{1}{2}$ in. Whit wing screw and cut it to length to suit the camera. The screw should go well into the tripod bush, but not so far that it bottoms in the bush. A washer should be on the wing screw under the tilt platform, to prevent the screw damaging the wood. If wing screws are not readily obtainable, one can be made from a wing nut and a piece of bolt sweated together, or at a pinch an ordinary bolt can be used.

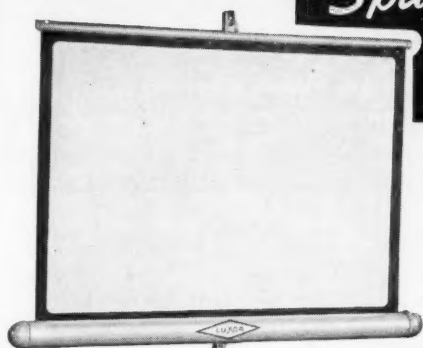
Finally, the panning handle is made from a length of rod and a rubber handle to fit it (handle ex motor cycle shop; easiest to choose handle, then get rod to fit it). The rod is screwed to the underside of the tilting top with two small brass staples. The rod is, of course, positioned to miss the tripod screw. The wooden parts can be stained and polished to match the rest of the tripod, and the metal stirrup can be painted except for the rubbing parts of the surface. The tripod head is then ready for use.

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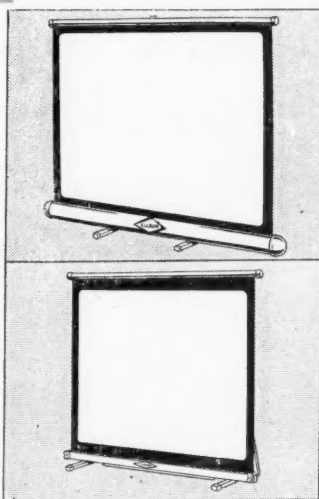
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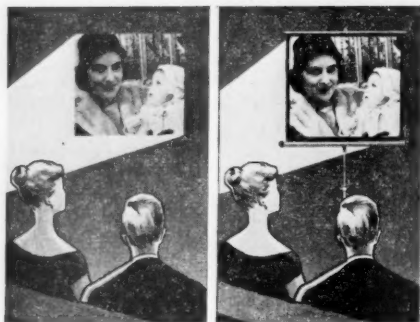
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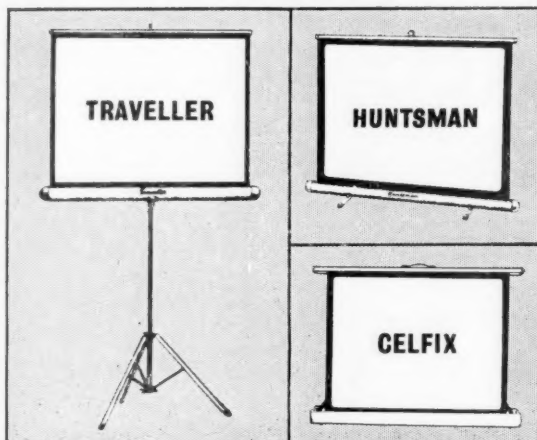
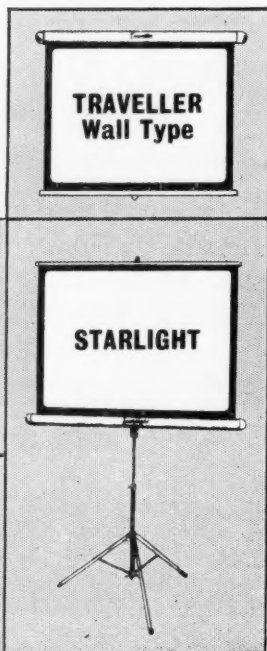
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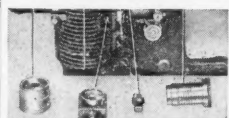
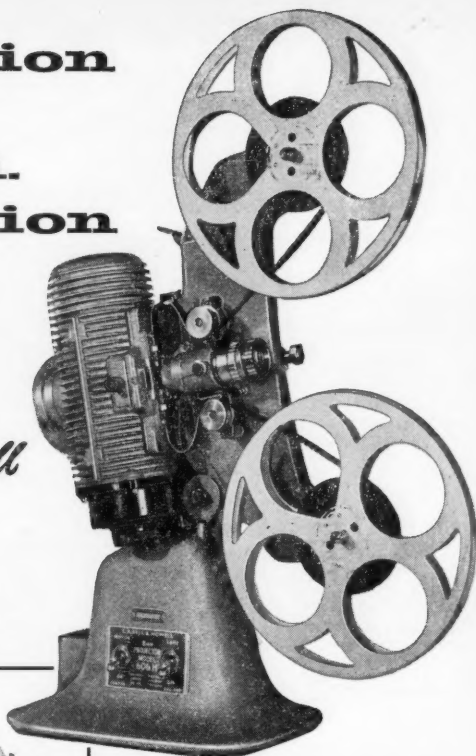
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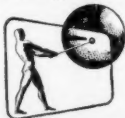


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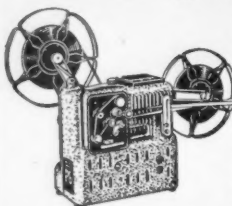
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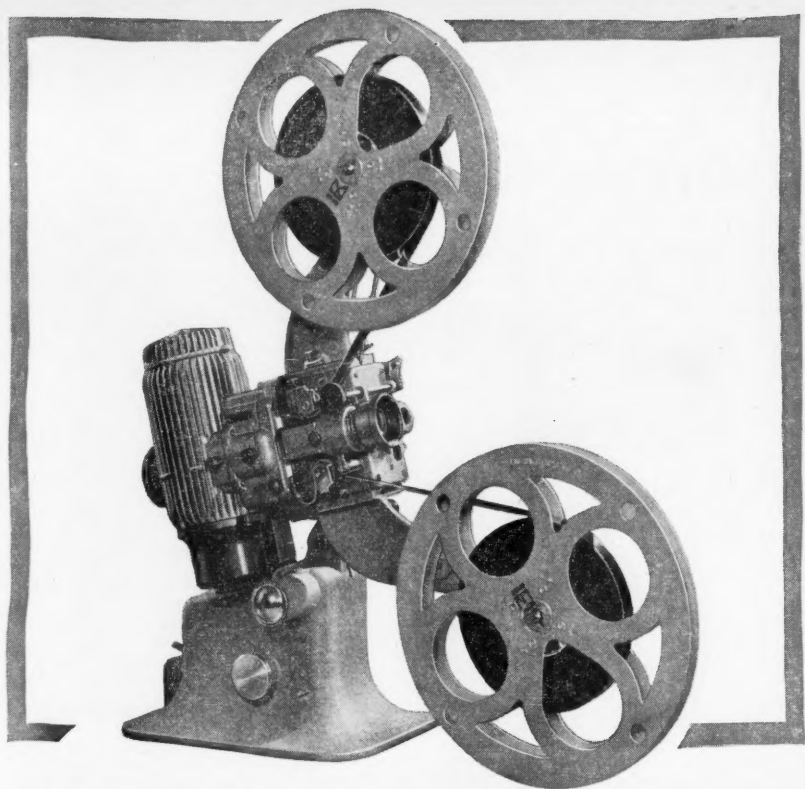
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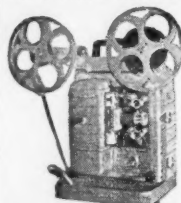
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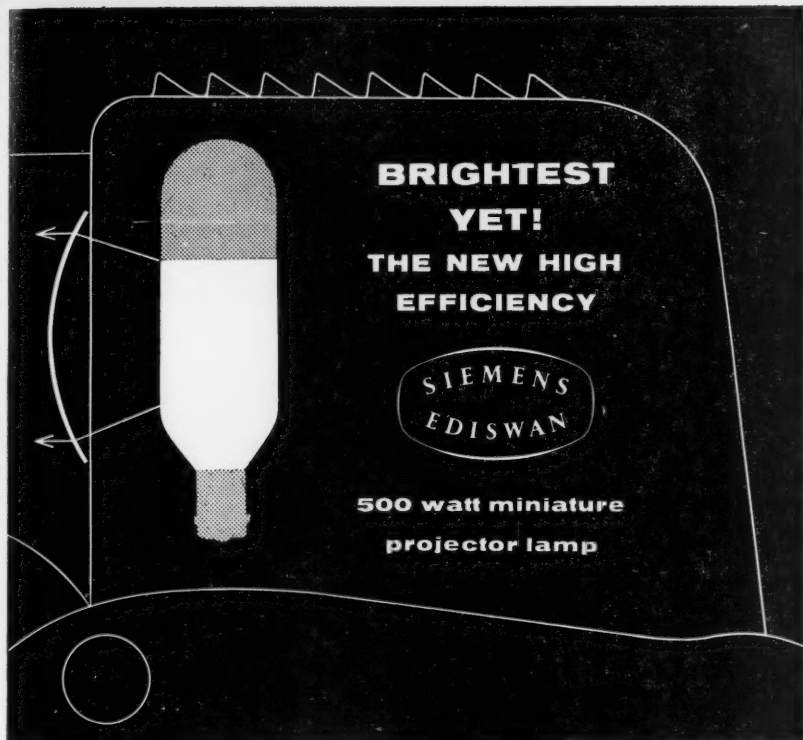
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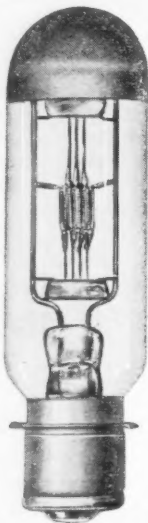
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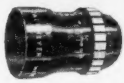
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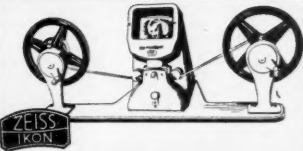
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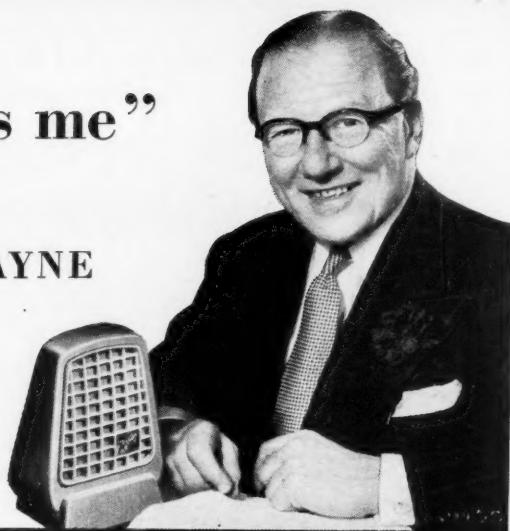
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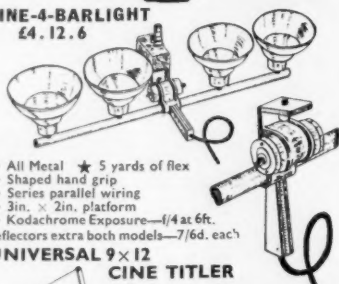


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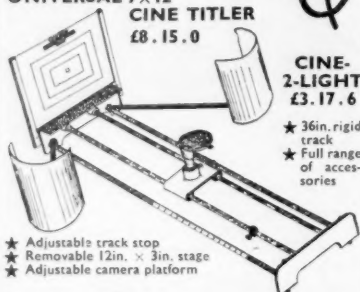
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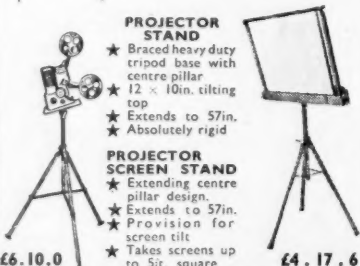


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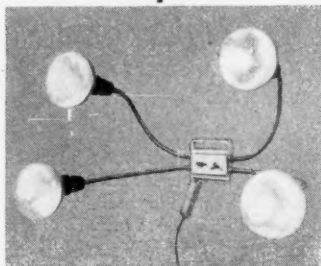
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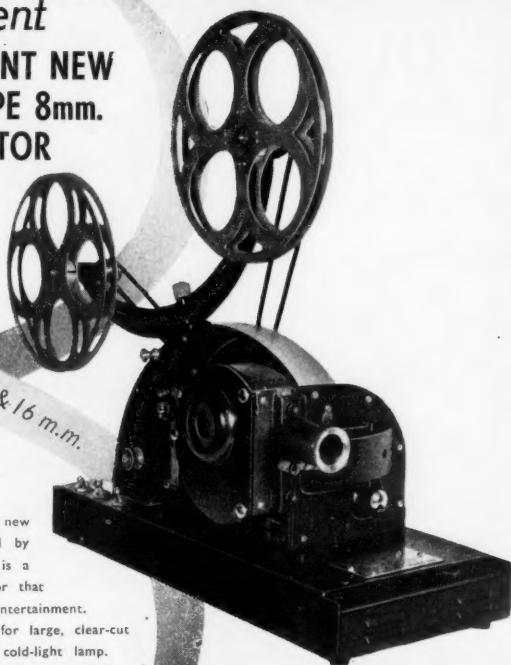
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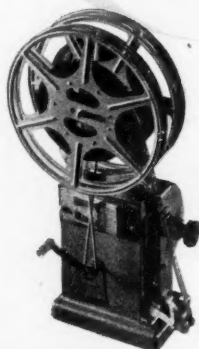
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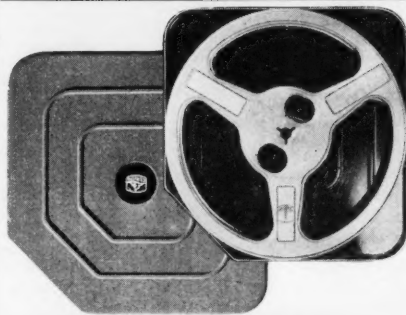


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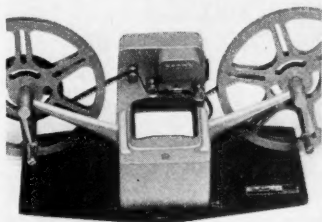
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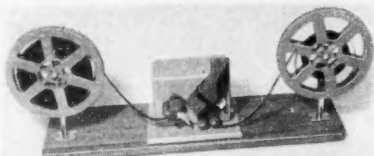
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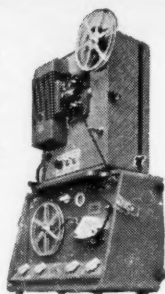
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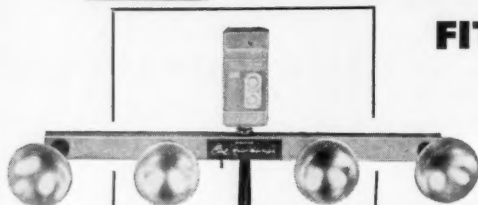
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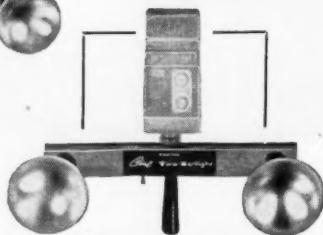
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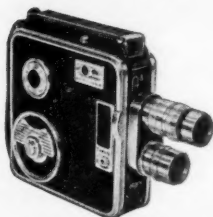
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For Better Programmes why not obtain your films from the Wallace Heaton Film Library? New 16mm. Sound catalogue now available. Films in all sizes including an extensive selection of 8mm. subjects. Write for catalogue.—127 New Bond Street, London, W.1. (MAYfair 7511.) (1358.)

16mm. Silent Films for Sale.—Comedies, Dramas, Travel. S.A.E., Ivey, Dryburgh Road, Putney, S.W.15. (1358.)
16mm. Sound Films for hire, sale, exchange or purchased—in perfect condition only. Top value assured.—Cinehire Film Service, Petersfield, Hants. Phone 188. (1358.)

Top quality sound! picture! service! titles! 16mm. Film Hire Library!... all available and at economic hire rates, with special reduction for block booking. Send 2/6 for Catalogue (amount refunded on first booking)—Golden Films, Office T2, 60 Wardour Street, London, W.1. (1358.)

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Laurel and Hardy 16mm. Sound Comedies for Sale. New. Send now for full list of 36 2 and 3 reel titles.—John King (Films) Ltd., Film House, East Street, Brighton. Tel. 25918. (1258.)

Annual Clearance Sale of 16mm. silent and sound films from 30/- per reel.—Full list: John King (Films) Ltd., Film House, Brighton. (159.)

Golden Films New 8mm. Releases contain Comedies—Animal—Religious and Variety Films. New copies for sale, s.a.e. for list.—Golden Films, Room T, 60 Wardour Street, W.1. (1358.)

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Hundreds of Bargain Films.—16mm. sound, 16mm. silent, 9.5mm. silent, Enclose 3d, stamped addressed envelope mentioning which list required.—Robinsons Cine Service, Purdis Croft, Bucklesham Road, Ipswich. (1258.)

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16mm. Sound Film Hire.—Cheap rates for Double Feature and Shorts, complete programmes, etc. List free.—Premier Film Services, 477 Manchester Road, West-houghton, near Bolton, Lancashire. (1258.)

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16mm. silent films. 1-2 reels (all types) for sale. Cheap, s.a.e. list. Box 578.

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16mm. Sound Film Library: big features, 25/6. 1/4 hour composite reels, 18/6 3 days. List 3d. 8mm. 1/4 hour variety reels, 5/6d.—73 Castlewood Drive, Eltham, S.E.9. (359.)

9.5mm. Sound and Silent Films for sale. Reasonable. S.a.e. for list. Box 574.

9.5mm. Films for Sale. Good condition, s.a.e. for list.—F. D. Fryatt, 45 Church Road, Newbury Park, Ilford, Essex.

Grand Sale of 16mm. sound films.—Colour and b. & w. from 30/- per reel. Send stamp for list.—Frank Jessop, 4 Oxford Street, Leicester.
8/9.5mm. S/Sound Walton for Sale. Wanted all subjects. List 3d. BM/RECS, London.

Cameras and Lenses

Murrays of Glasgow, Scotland's largest cine dealers—can supply any new camera or projector. See the new revolutionary Bolex B8L Compumatic now. We hire 8mm. cine cameras.

Liverpool cine enthusiasts requiring equipment of Film Hire should contact Kenneth Orlans, M.P.S., 390 Aighburgh Road, Phone: Garston 929 day or night. (1358.)

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Bell & Howell 70 DA triple turret camera, lin. f/1.8 T.H., 15mm. f/2-5 Cooke and 2in. f/3-5 Cooke Kinic. Leather case. Perfect condition. Price £95.—Bickerton, "Home-lands," Dennis Lane, Stanmore, Middx. Tel.: Grimsdyke 1657.

Cine Kodak 8-25 camera, f/2-7 fixed focus, sprocket feed, £15; Kodak 8-40 projector, 300 watt, resistance, case, £10; £23 the two G.B. L 516 sound/silent, £37/10/-, GIC 16mm. camera, 50ft. spools, f/1-9 focusing, £25. Brun titler (metal), £4.—Tinker, 21 Leckford Road, Earlsfield, S.W.18.
H.8 Bolex. Latest model, only used for 300ft. of film. Yvar f/1-9 and Dallmeyer f/1-9, 50mm., repeat. 50mm. telephoto. Still guaranteed, £115 o.n.o. Box 582.

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Bargain of a Lifetime: G.B. Bell & Howell, 16mm. 603T auto-load turret cine camera, with 16mm. f/2-8 Yvar lens (wide angle); this camera is new but slightly soiled and surplus to requirement. List price £111, our price 69 gns. Full maker's guarantee.—Ace Photographic Service Ltd., 87-109a Penny Street, Blackburn.

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Bolex Stereo attachment for filterslot, £25. Bolex 8mm. Anamorphic lens for H.8 or B.8, £30. Bell & Howell Autoload, lin. f/1-5 Cooke Kinic, standard Kodak magazines, 16mm., £45. We also stock the complete range of G.B.-Bell & Howell 16mm. sound projectors.—Guildford Camera Exchange, 8/9 Tunstgate, Guildford. Phone 4040.

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Staffs.

Wish to correct an error which occurred in their advertisement on page 613 of the October issue. The price of the Photopia Projection Table was incorrectly shown as £5. 17. 6. It should be £5. 5. 0.

XMAS & NEW YEAR GREETINGS

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The sign of the
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1958



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complete moviemaker

Details of the aims and services of the Institute will be sent on request to the Hon. Secretary, 8 West Street, Epsom, Surrey. (Epsom 2066).

Second-hand Bolex C.8, 1-9 Year, case, latest model, £46; C.8, 1-9 Dallmeyer, case, £42; Specto 88, 1-9 lens, de luxe case, £35. New 8mm. Bolex cameras all stocked. Write for high exchanges allowance on your old equipment.—Paul Moffatt, Churchgate, Loughborough.

Projectors

Murrays of Glasgow, Scotland's largest cine dealers, are appointed sales and service agents for Ampro and G.B.-Bell & Howell Soundfilm projectors, and most 8 and 16mm. silent machines. B. & H. "640" optical/magnetic now in stock.

Bargains in Projectors.—Bell & Howell 16mm. sound, £100. Victor model 40, 665. Good machines to clear.—Osmond, Lake House, Petersfield. (1359.)

What is the difference between all the ex-Air Ministry L.516 projectors on offer? All ours are stripped and rebuilt, using new parts where necessary to the exacting standard of the professional cinema, by qualified cinema engineers. Complete with all accessories, fully guaranteed for six months, £60. Your projector or other equipment in exchange. Suggest your own credit terms, no interest charges under six months settlement.—R. Sankey, Picturedrome, Atherstone, Warwick. (Tel. Atherstone 3210/3202.) (1358.)

Ampro Sound Projector, current model, cost £183/10/-, hardly used, 125 guineas. Box 587.

Pathe Super Vox, £35, also Pathe Vox 200 watt, £30. Delivered London. Box 589.

Specto 500, standard case, 1in. and 2in. lens, nylon gears fitted and overhauled by makers last year. Mint, £30.—Campbell, 6 Parkway, Southgate, N.14.

Ditmar 8/16mm. 250 watt, excellent condition, £32.—McKinnon, 104 Buckingham Road, Heaton Moor, Stockport. (HEA. 1538.)

Eumig P.26 16mm., little used, would exchange for 200P plus cash adjustment.—Goodings, 6 Park Avenue, Bingley, Yorks.

G.B.-B. & H. 621 with covers, extension speaker leads, transformer, spare lamps, 6ft. screen, £150, or would exchange for new Specto 500 and cash. This machine is in mint condition.—J. Dyson, 14 Butler Green, Chadderton, Oldham.

Specto 500 Projector 9-5/16, Hunter Traveller, 4 x 3 screen, splicer, reels, cans, etc. Old trolley, £42.—Underwood. (Guildford 67752.)

16mm. Sound Projector G.B. B. & H. Model 626, excellent (cost £205), accept £100.—38 City Road, March, Cambs.

Specto 500 16mm. Projector, 500 watt lighting, 2 1/2 T.H. lens. Complete with carrying case. Excellent condition, £37/10/-. Box 580.

Cine Enthusiast Kodascope 8/500 cine projector. "Brownie" turret, 3 lens, 8mm. cine. Both unused 1958 models. £50. Box 579.

Super Bargain. One owner, Pathe Pax 9-5mm. sound/silent projector, 750 watt model, perfect condition, with ten reels first class sound films, £45. Seller has insufficient time to spare for hobby. Buyer must collect. Demonstration or view by appointment.—H. Hodson, L.D.S., 181 Manchester Road, Heywood, Lancs.

Sale.—L.516 talkie, Kodascope "C", new tripod and head, etc., cine spares, Kinecam, soft, Bell & Howell L.516, Specto. Write for list. Offers for lot or separate.—Wilson, 17 Roberts Road, Walthamstow, London, E.17.

Bell & Howell 621, 16mm. sound. Complete, very good condition, guarantee, £150 o.n.o.—G. S. P., 16 De Montfort Road, S.W.16. TUL 3584 (Evenings only).

For Sale.—G.B. Bell & Howell Projector, Model 179, 16mm. sound and silent, transformer and speaker, with C.T.W. crystal beaded screen, £100 o.n.o.—Secretary, Mount Vernon Social Committee, 171 Thrumpton Lane, Retford, Notts.

Projector Amprosound Premier 20, 16mm. with stand and gram. Excellent condition. Demonstration arranged, £120 or near offer.—Apply: The Town Clerk, Borough of Wanstead & Woodford, Municipal Offices, High Road, Woodford, E.18.

UNREPEATABLE OFFER. 8mm. COMETSON 500 watt magnetic-sound projector, complete in case with loud-speaker, amplifier, mixing unit and microphone. 12 months guarantee, list £135. Our special price, £85/10/-. PHONE: KEN. 5857.—MAC'S CAMERAS, 8 The Arcade, South Kensington, S.W.7. (1359.)

For Sale.—One Bell & Howell 16mm. Projector Model V.156 with entire equipment, such as four Goodman speakers, sixteen other speakers, two Dunscombe 16mm. Continuous projection stand all as new, have been recently overhauled.—Apply: Dr. Tun, Llanbythor, Carm. (159.)

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used only 4 hours, total cost £150, offer over £160. Ring HAR. 9022 between 9-5.30 Monday to Friday.

Second-hand Cirs-Vox for 8mm. As new, complete. £40. Movilux 8 volt, 50 watt proj. c.r., as new. £42. Kodak 8-45 with case, good. £20. Several other second-hand projectors in stock. Good allowances on your old projector in exchange for a new or second-hand one.—Paul Moffatt, Churchgate, Loughborough.

For Sale.—Ensign Silent 16mm. (1935 model) and large screen in wooden box, 4ft. 6in., perfect, seen in London. Box 586.

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Spectone Recorder, 44 gns.; Phonotrix portable, 14 gns.—'Phone: Newton-le-Willows (Lancs.) 3146.

Elizabethan, Gramdec, Grundig, Sonomag, Spectone, Truvox, Verdik, Walter tape recorders and accessories.—J. H. Wood, Tape Recorder Store, 117, Ringwood Road, Highcliffe-on-Sea, Hants. Tel. 2040.

Mariott H.S.8 Sound Head and K.1 recording amplifier. Complete with bracket for M8R, nearest £30.—Bull, 180 Lawrence Hill, Bristol 5.

Mariott 8mm. ad sound edge stripe equipment, complete and as new, £35. Box 572.

Complete Outfits

Bolex L.8 1/1-9; Eumig P.8 with Phonomat; screen, splicer, titler, £75. Also Grundig TK5, £35.—4 Durham Road, London N.2.

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Murrays of Glasgow, Scotland's largest cine dealers, can supply by return every important cine accessory.

Brilliant grained silver screen fabric. Washable, crease-resisting, ideal for wide angle and cine pictures; 6ft. x 6ft., £3/10/-; 8ft. x 6ft., £4/10/-; 10ft. x 6ft., £5/10/-; 12ft. x 6ft., £6/10/-. Carriage 5/-.—Realm Filmscreens, 58 Victoria Road, N.4. (158.)

Kodak 16mm. Cine Magazines, loaded 50ft. fast pan negative reversible film, outdated, but guaranteed perfect in makers original packing, his most magazine loading cameras including Cine Kodaks and B. & H. Autoload, only 10/- each, post 1/-. Two or more post free.—R. Sankey, Picturedrome, Atherstone, Warwick. (1359.)

16mm. Moviscope Editor, complete, £20; Bolex tripod, complete, £17/10/-; Cadit prismatic focuser, £5. All as new.—Manal, 36 Jesmond Avenue, Wembley. (8152 after 7 p.m.)

One second-hand 100ft. 16mm. developing tank and drying rack by Gratispool. Good condition, £2.—Apply Metropolitan Leather Co. Ltd., Queen Street, Great Harwood, Lancs.

Process your own cine film and save pounds, with our latest developing tank. 16mm. £9/9/-; 9-5.8mm. £7/7/-; complete no extras. Literature s.a.e.—W. Pearse, Manufacturer, Midaphouse Works, Liskeard, Cornwall.

Miscellaneous

Murrays of Glasgow, Scotland's largest cine dealers, maintain their own mobile projection unit.

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Hand Painted Title Cards. Your specification. Write artist, "Ingledene," Gig Lane, Moore, near Warrington. (158.)

Exchange new 8mm. Cirs-Vox sound stripe recording unit for 16mm. projector.—"Cullinagh," Whittingham Lane, Broughton, Preston.

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Processing

8/9/5/16mm. Film Processing. Details s.a.e. (Postal Service only.)—Howell, 23 Holwhite Avenue, Enfield, Middx.
Microfilms Ltd., St. Andrews Street, Dundee. See page 874.
8/16mm. Processing. Details (s.a.e. please) from: Jayene Laboratories, Westonina, Weston Favell, Northampton.

Books and Magazines

American Publications. *Figure Studies* by Fritz Henle 35/3; *Kodak Color Handbook* 39/3; Year's subscription *Home Movies* 35/-; *American Cinematographer* 35/-; *Popular Photography* 35/-; *U.S. Camera* 39/-; Specimen 4/- each. Free catalogue.—Willen Ltd. (Dept. 18), 9 Drapers Gardens, London, E.C.2.

Photographic Books—Cine for sale second-hand. List, enclose stamp.—Holleyman (C), 59 Carlisle Road, Hove, Sussex.

A Fair Price paid for books and magazines on cinema, also scrap books and stills, the older the better, please write:—Mr. J. R. Whiffin, 4 Albert Road, Romford, Essex.

WANTED

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FLOODS SCREEN WITH CHANGING
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Trade Enquiries Invited. From dealers or direct
G. B. DUN, 1 Upland Road, Northampton

Wanted.—1in. and 1 1/2in. lens also projector lamps for Pathe Super Vox.—38 City Road, March, Cambs.

Wanted.—Cine Nizo S.2.R. camera. Full particulars to:—397 St. Albans Road, Hatfield, Herts.

Wanted.—Agfa 11 c.m. telephoto, bayonet fitting, for Movex 30B camera. Twin record player. Cine tripod. Box 581.

Hand Crank 16mm. Camera. Kodak "A" or similar model, price and condition to:—Box 573.

9-5 Pathescope "Home Movie" complete with twin resistance, motor and super attachment.—F. C. Searle, Electrician, Cotham Hill, Bristol 6.

16mm. Animated Viewer also rewinds; splicer not required.—Fisher, 47 Florence Road, Brighton.

Wanted Urgently.—9-5mm. projector, notched frame device, motor.—Antony Warren, Trinity College, Cambridge.

Films

Wanted.—35mm. or 16mm. complete print Chaplin's *The Gold Rush*.—Box 1463, Philadelphia, 5., Pennsylvania, U.S.A.

Wanted.—8mm. comedies, travel, glamour, art. Private buyer. Condition essential. Send details:—Box 584.

Miscellaneous

Part time mobile 16mm. film projectionists wanted. Must have own transport. Mainly daytime and some evening work available. Write for details. Box 376.

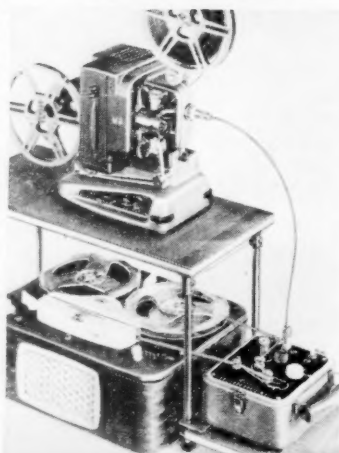
We are searching for a man who knows his way around the 16mm. Industrial Film World. He must be fully conversant with all the aspects of film production and need not answer this advertisement unless he can provide us with visual proof of past accomplishments. Please telephone WELbeck 2994 for an appointment.

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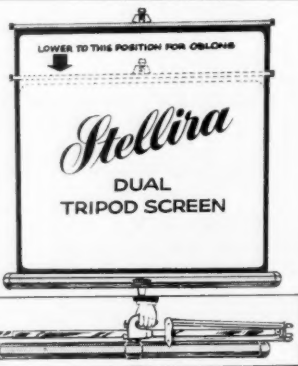
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